

United States Route 95 (US-95) Vertical Profile Realignment Project

SAN BERNARDINO COUNTY, CALIFORNIA
DISTRICT 8 – SBD – US-95 (PM 51.22/51.65)
EA 0K310
Project ID 0800000340

Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment with Finding of No Significant Impact



**Prepared by the
California Department of Transportation**

The environmental review, consultation, and any other action required in accordance with applicable Federal laws for this project is being, or has been, carried out by the Department under its assumption of responsibility pursuant to 23 U.S.C. 327.



OCTOBER 2011

General Information about This Document

What's in this document:

The California Department of Transportation (Department), as assigned by the Federal Highway Administration (FHWA), has prepared this Initial Study/Environmental Assessment (IS/EA), which examines the potential environmental impacts of the alternatives being considered for the proposed project located in San Bernardino County, California. The Department and the Bureau of Land Management (BLM) are joint lead agencies under the National Environmental Policy Act (NEPA). The Department is the lead agency under the California Environmental Quality Act (CEQA). The document tells you why the project is being proposed, what alternatives we have considered for the project, how the existing environment could be affected by the project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

What you should do:

- Please read the document.
- Additional copies of it, as well as of the technical studies we relied on in preparing it, are available for review at the District 8 office at 464 West 4th Street, 8th Floor, San Bernardino, California 92401-1400, and/or the Bureau of Land Management Needles Office, 1303 South Highway 95, Needles, CA 92363-4228.
- We'd like to hear what you think. If you have any comments regarding the proposed project, please send your written comments to the Department by the deadline.
 - Submit comments via postal mail to:
Kurt Heidelberg, Environmental Branch Chief
Attention: Irene Dominguez, Environmental Support "D"
Department of Transportation, District 8 Environmental Planning
464 W. 4th Street-MS 823, San Bernardino, CA 92401-1400
 - Submit comments via email to: irene_dominguez@dot.ca.gov.
- Be sure to submit comments by the deadline: December 11, 2011

What happens next:

After comments are received from the public and reviewing agencies, the Department, as assigned by the Federal Highway Administration (FHWA), may: (1) give environmental approval to the proposed project, (2) do additional environmental studies, or (3) abandon the project. If the project is given environmental approval and funding is appropriated, the Department could design and construct all or part of the project.

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Department of Transportation, District 8 Attn: Irene Dominguez, Environmental Support "D", Environmental Planning, 464 West 4th Street, 6th Floor MS-823, San Bernardino, CA 92401-1400; (908) 388-7068 Voice, or use the Telecommunications Device (TDD) for the Deaf (909) 383-6300.

SCH#
8 – SBD – US-95 Post Mile (PM) 51.22/51.65
0K310

United States 95 (US-95) vertical profile realignment, construction of lanes, shoulders and a “no passing” restriping
from
PM 51.22 to 51.65 in San Bernardino County

**INITIAL STUDY with (Proposed) Mitigated Negative Declaration/Environmental
Assessment**

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2) (C)

THE STATE OF CALIFORNIA
Department of Transportation

Date of Approval

David Bricker
Deputy District Director, Environmental Planning
District 8
California Department of Transportation

PROPOSED MITIGATED NEGATIVE DECLARATION

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Department) proposes to realign the vertical roadway profile of existing United States 95 (US-95) within the project limits, construct two, 12-foot lanes with eight-foot shoulders and restripe the centerline for a no passing zone from Post Mile (PM) 51.22 to 51.65. The project would improve safety for existing and future commercial and interregional traffic. Two alternatives (No Build and Build) are being considered for the US-95 safety project.

Determination

This proposed Mitigated Negative Declaration (MND) is included to give notice to interested agencies and the public that it is the Department's intent to adopt an MND for this project. This does not mean that the Department's decision regarding the project is final. This MND is subject to modification based on comments received by interested agencies and the public.

The Department has prepared an Initial Study for this project, and pending public review, expects to determine from this study that the proposed project would not have a significant effect on the environment for the following reasons:

The proposed project would have no effect on *land use and planning, parks and recreational facilities, growth, farmlands/timberland, community character and cohesion, relocations and real property acquisitions, environmental justice, cultural resources, hydrology and floodplain, geology/soils/seismic/topography, air quality and noise.*

The proposed project would have no significant effect on *utilities/emergency services, traffic and transportation/pedestrian and bicycle facilities, water quality and storm water runoff, paleontology and hazardous waste/materials.*

The proposed project would have no significantly adverse effect on *visual aesthetics or biological resources* because the following mitigation measures would reduce potential effects to insignificance:

Visual Aesthetics:

All paving would be removed from abandoned roadway then the area would be de-compacted by ripping.

All disturbed areas would be cat walked by grading equipment to provide a roughened surface.

All vegetation in areas to be cleared would be broken/crushed into mulch of less than 6 inch pieces. This mulch and the top two inches of soil (containing seed of the existing vegetation) would be scrapped and held for later use. When construction is complete it would be installed back evenly on the disturbed area.

All organic fiber from wood would be spray applied over the reserved mulch and topsoil. This fiber will include water soluble organic polymer.

A total of 971 plants would be planted on the disturbed area. The planting will consist of Larrea tridentate, Acacia greggi, and Hymenoclea salsola. The container size of the plants would be a

1 gallon. Plants would be spotted on site to reproduce a random native cover. A landscape contractor will provide temporary watering and replacement of any planted material that dies throughout the one-year plant establishment period.

Biological Resources:

Mitigation for impacts to desert tortoise habitat will be made at a ratio total of 3:1 (1:1 for BLM and 2:1 for CDFG).

The washes impacted by the proposed project will be mitigated at a minimum 1:1 ratio. This mitigation requirement is expected to be met in combination with the mitigation required due to the impacts to desert tortoise.

If nesting burrowing owls are found within the project limits, Caltrans shall mitigate by acquiring and permanently protecting known burrowing owl nesting and foraging habitat at a ratio determined by the California Department of Fish and Game (CDFG).

David Bricker
Deputy District Director, Environmental Planning
District 8
California Department of Transportation

Date

Table of Contents

<u>Chapter 1. Proposed Project</u>	1
1.1 Purpose and Need	1
1.2 Project Description	3
1.2.1 No-Build Alternative	3
1.2.2 Build Alternative.....	3
1.2.3 Build Alternatives Considered but Eliminated from Consideration.....	6
1.3 Permits and Approvals Needed	6
<u>Chapter 2. Affected Environment, Environmental Consequences, and Avoidance,</u>	
<u>Minimization and/or Mitigation Measures</u>	7
2.1 Human Environment.....	9
2.1.1 Utilities/Emergency Services.....	9
2.1.2 Affected Environment	9
2.1.3 Environmental Consequences.....	9
2.1.4 Avoidance, Minimization and/or Mitigation	10
2.1.5 Traffic and Transportation	10
2.1.6 Affected Environment	10
2.1.7 Environmental Consequences	11
2.1.8 Avoidance, Minimization and/or Mitigation	11
2.1.9 Visual/Aesthetics	11
2.1.10 Affected Environment	12
2.1.11 Environmental Consequences	14
2.1.12 Avoidance, Minimization and/or Mitigation	18
2.2 Physical Environment.....	18
2.2.1 Water Quality and Storm water Runoff	18
2.2.2 Affected Environment	22
2.2.3 Environmental Consequences.....	23
2.2.4 Avoidance, Minimization and/or Mitigation	23
2.2.5 Paleontology.....	24
2.2.6 Affected Environment	24
2.2.7 Environmental Consequences	24
2.2.8 Avoidance, Minimization and/or Mitigation	25
2.2.9 Hazardous Waste/Materials.....	26
2.2.10 Affected Environment	26
2.2.11 Environmental Consequences	27
2.2.12 Avoidance, Minimization and/or Mitigation	27
2.3 Biological Environment.....	27
2.3.1 Natural Communities.....	28
2.3.2 Affected Environment	28
2.3.3 Environmental Consequences.....	28
2.3.4 Avoidance, Minimization and/or Mitigation	28
2.3.5 Wetlands and Other Waters	29
2.3.6 Affected Environment	30
2.3.7 Environmental Consequences.....	30
2.3.8 Avoidance, Minimization and/or Mitigation	31
2.3.9 Plant Species	31
2.3.10 Affected Environment	31
2.3.11 Environmental Consequences.....	32
2.3.12 Avoidance, Minimization and/or Mitigation	32
2.3.13 Animal Species.....	32

2.3.14 Affected Environment	33
2.3.15 Environmental Consequences	36
2.3.16 Avoidance, Minimization and/or Mitigation	36
2.3.17 Threatened and Endangered Species.....	36
2.3.18 Affected Environment.....	37
2.3.19 Environmental Consequences	39
2.3.20 Avoidance, Minimization and/or Mitigation	39
2.3.21 Invasive Species.....	41
2.3.22 Affected Environment.....	42
2.3.23 Environmental Consequences	42
2.3.24 Avoidance, Minimization and/or Mitigation	42
2.4 Cumulative Impacts.....	42
2.4.1 Affected Environment.....	43
2.4.2 Environmental Consequences	43
2.5 Climate Change.....	45
2.5.1 Affected Environment.....	49
2.5.2 Qualitative Analysis	49
2.5.3 CEQA Conclusion.....	50
<u>Chapter 3. Comments and Coordination</u>	<u>56</u>
3.1 Consultation and Coordination with Public Agencies	56
<u>Chapter 4. List of Preparers</u>	<u>59</u>
<u>Chapter 5. Distribution List</u>	<u>60</u>

APPENDICES

Appendix A: CEQA Checklist	62
Appendix B: Title VI Policy Statement.....	72
Appendix C: Environmental Commitments Record.....	74
Appendix D: List of Acronyms.....	87
Appendix E: List of Technical Studies.....	91

LIST OF FIGURES

Figure 1: Regional Location Map	4
Figure 2: Project Location Map	5
Figure 3: View 1, looking south on US-95 towards the proposed project area	15
Figure 4: View 2, looking north on US-95 towards the proposed project area	16
Figure 5: California Greenhouse Gas Forecast	49
Figure 6: Mobility Pyramid.....	51

LIST OF TABLES

Table 1: US-95 Current (2010) and the Projected (2032) Traffic Data	2
Table 2: TASAS Data for Proposed Project.....	2
Table 3: Change in Visual Quality, Before and After Proposed Project	17
Table 4: Regional Species and Habitats of Concern	33
Table 5: Climate Change/CO2 Reduction Strategies	52
Table 6: Summary of Native American Heritage Commission Consultation.....	57

Chapter 1 – Proposed Project

Introduction

The Department and BLM are joint, co-lead agencies under NEPA. The Department is the lead agency under CEQA. The Department proposes to realign the vertical roadway profile of existing US-95 within the project limits, construct two, 12-foot lanes with eight-foot shoulders and restripe the centerline for a no passing zone from Post Mile (PM) 51.22 to 51.65.

This project is included in the 2010 State Highway Operation and Protection Program (SHOPP) and is proposed for funding through the Major Reservation funds 201.010/HB1 –Safety Improvements program. It is also part of the SHOPP 2011 Federal Transportation Improvement Program (FTIP) Lump Sum SBDLS01 program. The project does not require substantial right of way and does not increase the traffic capacity within the project limits.

US-95 is a two-lane, two-way undivided highway that extends from its junction with Interstate 10 (I-10) in the City of Blythe in Riverside County, traverses Palo Verde, Parker, Vidal, and terminates at the Nevada state line in San Bernardino County. US-95 is a route for recreational, interregional, and commercial travelers (See Figures 1 and 2).

1.1 Purpose and Need

Purpose:

The purpose of the proposed US-95 project is to:

- Improve safety and operations within the project limits, by upgrading the widths of the existing lanes/shoulders, realigning the vertical and horizontal curves to current Highway Design Manual (HDM 6th Edition) standards.
- Realignment of this segment of US-95 would provide motorists more space to negotiate the curves and improve sight distances, which would reduce accident rates.

Need:

The project was initiated by the District 8, Traffic Operations Division. Accident rates for this segment of US-95 within the project limits are higher than the average rate for a similar facility. A Safety evaluation was performed for this project and resulted in a Traffic Safety Index (SI) of 230. A Traffic SI greater than 200 is considered a deficiency.

Motorists approach the combination of horizontal and vertical curves with restricted sight distances and paved shoulders less than 8 feet, following a long straight segment of the highway at a greater speed than the advisory warning signs posted speed (50 mph), which results in vehicles overturning, loss of control or running off the roadway. The warning signs with an advisory speed of 50 mph have not resulted in significant accident reduction at this location.

The existing lanes vary from 11.0 feet (ft.) to 12.0 ft. wide, which does not meet HDM 6th Edition Index 301.1. The paved shoulders vary from 0 to 2 ft. wide, which does not meet HDM 6th

Edition Index 302.1. The travel lanes of the route consist of asphalt concrete of varying thickness. The existing alignment within the project limits from PM 51.22 to PM 51.65 includes concurrent vertical and horizontal curves connected by two long straight segments of the roadway. Also, the existing vertical curve is 900 ft. which does not meet HDM 6th Edition Index 203.2.

The need and location of the project were identified in order to correct site specific geometric deficiencies between PM 51.22 to PM 51.65. The proposed project is consistent with Statewide, regional, and local planning goals and is consistent with the November 1999 Route Concept Report.

Current and Projected Traffic

The current (2010) and the projected (2032) traffic data for US-95, within the project limits, are as shown in Table 1. As noted, within the next 20 years traffic volumes are projected to increase by approximately 40%.

Table 1: US-95 Current (2010) and the Projected (2032) Traffic Data

Traffic Data	2010	2032
Average Daily Traffic (ADT)	5,900	8,000
Design Hour Volume (DHV)	600	820
Design Hour Percentage (DH%)	10%	10%
Directional Split (D)	59%	59%
Trucks in Design Hour (T %)	16%	16%
Volume/Capacity Ratio (V/C)	.22	.29
Level of Service (LOS)	B	C

Source: District 8 Traffic Forecasting

Accident Rates

The Traffic Accident Surveillance and Analysis System (TASAS), for the project limits are shown in Table 2.

Table 2: TASAS Data for Proposed Project

Location	ACTUAL RATE (per million Vehicle Miles)			AVERAGE RATE (per million Vehicle Miles)		
	Fatal	Fatal + Injury	Total	Fatal	Fatal + Injury	Total
08-SBd-95 PM 51.22/51.65	0.37	1.12	1.87	0.026	0.36	0.81

Source: District 8 Traffic Operations

Based on the summary from TASAS Selective Record Retrieval (TSAR) output for the 2 year period from January 1, 2007 to December 31, 2009, the majority of the accidents were caused either by improper turning maneuvers or speeding.

TASAS, Table 2 indicates that the actual accident rate within the project limits was higher than the average rate for similar type facilities. The realignment of this segment of US-95 would provide motorists more space to negotiate the curves and improve sight distances, which would reduce accident rates.

1.2 Project Description

The Department proposes to realign the vertical roadway profile of existing US-95 within the project limits, construct two, 12-foot Hot Mix Asphalt (HMA) lanes with two, eight-foot HMA shoulders and restripe the centerline for a no passing zone from Post Mile (PM) 51.22 to 51.65. The vertical/horizontal curves, existing lanes and shoulders would be upgraded to current design standards, which would improve safety by allowing motorists more space to negotiate curves and improve sight distances.

The project is located in a desert area of eastern San Bernardino County. This portion of US-95 is approximately 41.5 miles north of Route 62 and 5.5 miles south of Interstate 40 in San Bernardino County, California (see Figure 1 and 2). Two alternatives (No Build and Build) are being considered for the US-95 realignment project.

1.2.1 No-Build Alternative

The No-Build Alternative is used to compare the relative impacts and benefits of the proposed project improvements. Under this alternative, no improvements, modifications, or changes would be made to US-95. As a result, the No-Build Alternative would not result in any environmental impacts. No capital costs would be associated with this alternative. Within the project limits, traffic volumes are projected to increase by 100% within the next 20 years. Presently, accident rates for this segment of US-95 are higher than the average rate for a similar facility. Prior Department efforts to curb accidents by posting warning signs with an advisory speed of 50 mph have not resulted in significant accident reduction at this location. As traffic volumes continue to grow, higher accident rates would be anticipated if no action were taken. The No-Build Alternative does not address the need to enhance highway operational safety for the traveling public on this section of US-95 and for this reason this alternative does not meet the purpose and need for this project.

1.2.2 Build Alternatives

Alternative 2: Realign to the East of Existing US-95

Under this alternative the Department would realign the vertical roadway profile to the east of existing US-95. This will allow the existing roadway to be used as a detour during the construction of the proposed roadbed. Also, the proposed project would construct two, 12-foot Hot Mix Asphalt (HMA) lanes with two, eight-foot HMA shoulders and restripe the centerline for a no passing zone from PM 51.22 to 51.65. This would improve sight distance and provide more space for motorists to negotiate roadway curves and thereby reduce accident rates. Right of way from BLM is acquired at no cost to the State. The cost for this alternative is estimated at \$3,580,000, which is within the limits of available funding from the SHOPP Safety Program based on SI calculations.

Figure 1: Regional Location Map

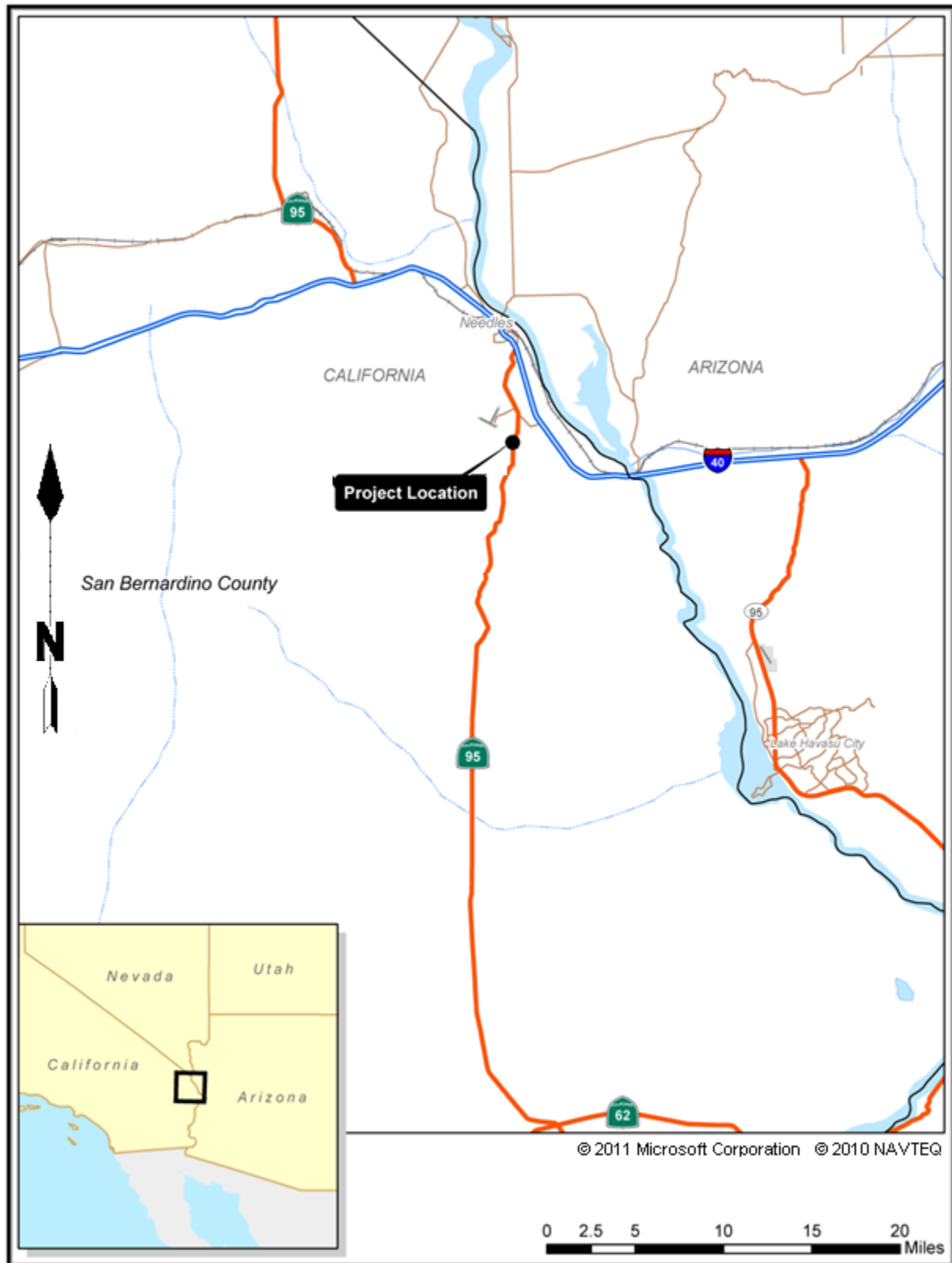
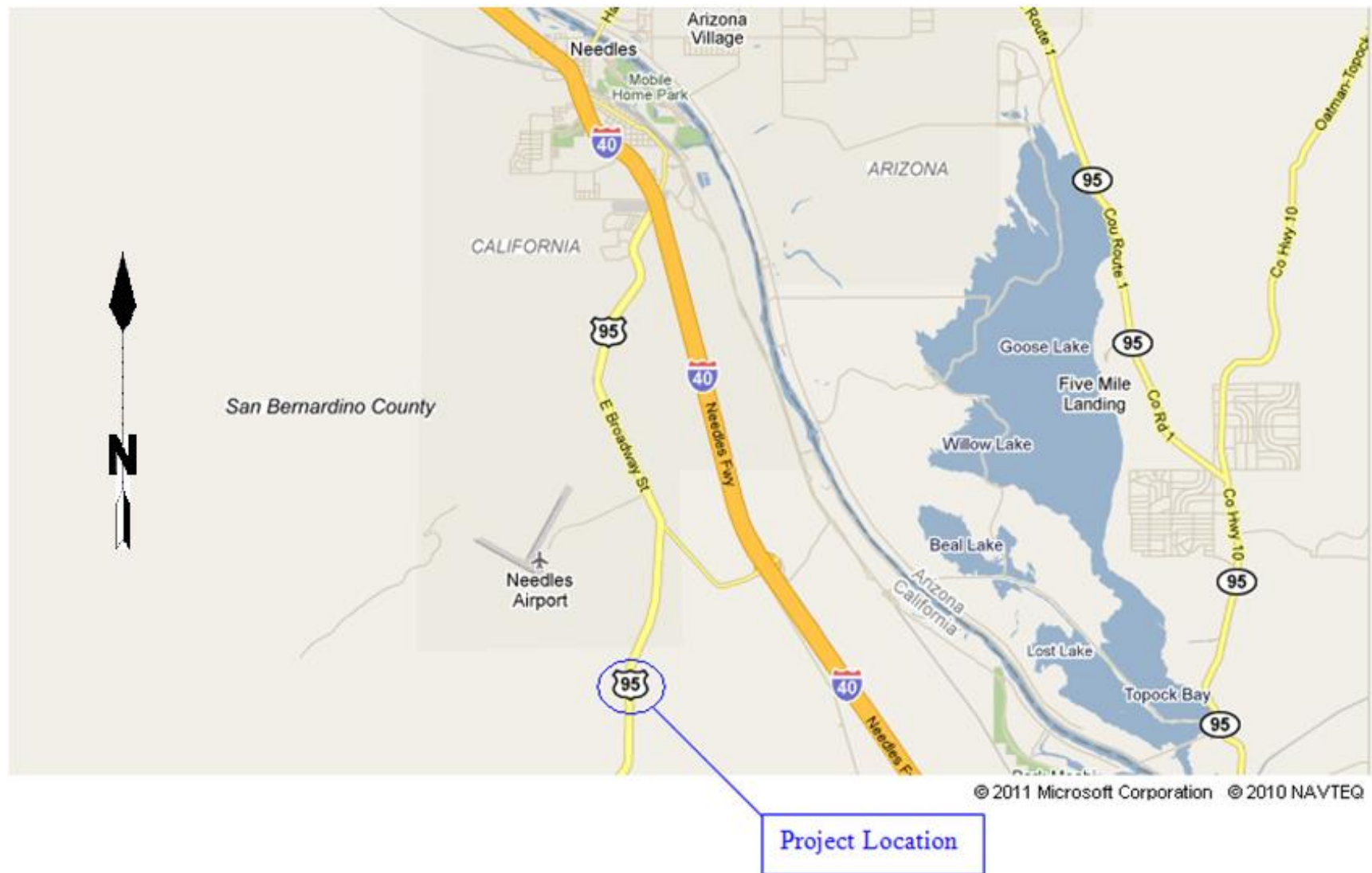


Figure 2: Project Location Map



1.2.3 Build Alternatives Considered but Eliminated from Consideration

Alternative 3: Correct the Vertical Alignment on Existing US-95

Under this alternative the Department would realign the vertical profile of the existing roadway only, construct two, 12-foot Hot Mix Asphalt (HMA) lanes with two, eight-foot HMA shoulders and restripe the centerline for a no passing zone from PM 51.22 to 51.65. This alternative would require building a detour off of the existing roadway to accommodate traffic during project construction.

A Southern California Gas Company high-pressure water pipeline west of the roadway would be in conflict with this proposed alternative and would require relocation. The cost of relocating the high-pressure water pipeline, earthwork quantities and the detour would significantly increase the cost for this alternative. The cost for this alternative would be approximately \$5,000,000. This alternative was considered, but eliminated from consideration as project cost reduces the SI value of 230 to below its minimum threshold. Also, this alternative was eliminated due to the fact that it would environmentally impact nearly the same amount of resources as Alternative 2, while the safety improvements would be limited to vertical realignment only.

Alternative 4: Realign to the West of Existing US-95

Under this alternative, it is proposed to realign the roadway horizontally to the west of the existing alignment, construct 12' HMA lanes with 8' outside shoulders with 4:1 side slopes and re-stripe the centerline for no passing between PM 51.22 and 51.65. This alternative would result in additional environmental impacts as relocating the Southern California Gas Company high-pressure water pipeline would result in a larger environmental footprint for the project. The cost for this alternative is approximately \$6,000,000.

This alternative was considered, but eliminated due to the larger environmental footprint that would have resulted and increased environmental impacts. Also, under Alternative 2, the safety improvements would be met at nearly half the cost of Alternative 4.

1.3 Permits and Approvals Needed

The following permits, reviews, and approvals would be required prior to the start of construction for the proposed project:

Agency	Permit/Approval	Status
U.S. Fish and Wildlife Service (USFWS)	Section 7 consultation for threatened and endangered species; compliance with the Migratory Bird Act; review and comment on 404 permit	Consultation is ongoing.
California Department of Fish and Game (CDFG)	1602 Streambed alteration agreement; 2081 permit for incidental take of threatened or endangered species	Consultation is ongoing.
U.S. Army Corps of Engineers (USACE)	Section 404 Nationwide permit	Consultation is ongoing.
Regional Water Quality Control Board	Section 401 permit for activities in waters of the United States	Consultation is ongoing.
Bureau of Land Management	Approval of an Environmental Assessment	Consultation is ongoing.

Chapter 2 – Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

As part of the scoping and environmental analysis conducted for the project, the following environmental issues were considered, but no adverse impacts were identified. Consequently, there is no further discussion regarding these resources in this document:

Land Use

Existing and Future Land Use- No impacts would occur to existing or future land use, or parks and recreational facilities, as no residential or business developments exist within the project area.

Consistency with State, Regional, and Local Plans and Programs-Southern California Association of Governments (SCAG) is the metropolitan planning organization for six counties in southern California: Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. SCAG is mandated by the federal government to research and draw up plans for transportation, growth management, hazardous waste management, and air quality. Additional mandates exist at the state level. Among its activities is the maintenance of a continuous, comprehensive, and coordinated planning process resulting in a Regional Transportation Plan (RTP) and a Regional Transportation Improvement Program (RTIP).

The San Bernardino County General Plan encompasses the unincorporated lands within San Bernardino County, including those in the proposed project area. The county's general plan provides guidance for the future, particularly regarding growth and development. More precise direction is provided in plan implementation mechanisms, such as annexations, zoning codes, design regulations, annual budgets, and capital improvement programs. The general plan addresses a broad range of physical, environmental, social, and economic factors affecting change in the community. These factors include land use and circulation, the environment and resources, economic and fiscal conditions, as well as a host of others.

The Build Alternative of the proposed project would improve safety and would be consistent with the policies, goals, and objectives of relevant local land use plans. Additionally, there are no residential, commercial, or industrial developments in the general vicinity of the proposed project that would be adversely affected by construction activities or operational improvements.

Parks or Recreational Facilities-No parks or recreational facilities exist within the project area; therefore, no impacts will occur to parks or recreational facilities.

Growth

The project area is located in the sparsely populated desert portion of eastern San Bernardino County. The proposed improvements would be located within BLM land, which is subject to and in conformance with the California Desert Conservation Area (CDCA) Plan of 1980 (as amended) in accordance with Title 43 Code of Federal Regulations 1610.5-3. There are no existing or planned major residential, commercial, or industrial developments in the project area. The Build Alternative is designed to address existing highway safety deficiencies; it does not include capacity enhancements. The Build Alternative does not include any residential or business developments, nor would it result in new access connections to existing or planned developments. Therefore, it would not directly or indirectly cause additional growth.

Farmlands/Timberlands

The project area is located on vacant desert land and is not currently used for farming or grazing of animals. There are no timberlands within the project area. For these reasons there are no impacts to farmlands/timberlands.

Community

Community Character and Cohesion-There are no residential, commercial, or industrial developments in the project area. The nearest community is Needles, which has a population of approximately 4,850 persons and is located approximately 8 miles north of the project site.

Relocations and Real Property Acquisition- There are no residences or businesses in the project area and no relocation impacts would occur. The project area is within land under the jurisdiction of BLM. No real property acquisitions would occur with the proposed project.

Environmental Justice-The project area is vacant desert. No residential communities containing minority or low-income populations within the project limits or within the project area exist. Therefore, there are no impacts related to environmental justice.

Cultural Resources-The Department completed a Historic Property Survey Report (HPSR) for the project in June 2011. The Department has determined a Finding of No Historic Properties Affected and has determined a finding of no impact because there are no historical resources and no 4(f) properties (publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance), exist within the project area of potential effects (APE). However, pursuant to State Health and Safety Code Section 7050.5, provisions addressing the discovery of cultural materials or human remains are included in the Environmental Commitments Record (ECR).

Physical Environment

Hydrology and Floodplain- The project is located in a remote desert environment in southeastern San Bernardino County. According to the Federal Emergency Management Agency (FEMA), the proposed project site is not located within a 100-year floodplain (<http://www.msc.fema.gov>); therefore, a Location Hydraulic Study and a Floodplain Evaluation Report are not required. Due to the remote location within a desert environment, there would be no risk of flooding as a result of the failure of a levee or dam.

Geology/Soils/Seismic/Topography- The proposed project site is not located within a State of California Earthquake Fault Zone (Hart and Bryant 1997) and the probability of damage from surface fault rupture is low due to the lack of known active faults directly underlying the subject site or its vicinity. No national natural landmarks or other unique geologic features are present within the project limits and the proposed project is not of substantial scope and size to result in adverse geological resources impacts.

Air Quality- The proposed project is exempt from project level air quality analysis per Table 2 of 40CFR 93.126, because it falls under Collision Reduction Category: Safety Improvement Program HB1 (201.010) (Tony Louka, memo, December 30, 2008).

Noise- The project area is located in a remote rural area of southeastern San Bernardino County. There are no residential, commercial, or industrial developments in the area and no sensitive noise receptors within the project limits; therefore a noise study is not required.

2.1 Human Environment

2.1.1 Utilities/Emergency Services

2.1.2 Affected Environment

Law enforcement services in the project area are provided by the California Highway Patrol and the San Bernardino County Sheriff's Department. The Colorado River Station of the sheriff's department, located in Needles, serves a geographic area that encompasses the project area and extends north to the Nevada state line, east to Arizona, and south to the Riverside County boundary.

The South Desert Division of the San Bernardino County Fire Department consists of 16 stations that serve a 7,968-square-mile area, which encompasses the project area. The River Battalion of the South Desert Division is located in Needles, approximately 8 miles north of the project site.

In January 2011, a Utility Information Sheet prepared by the Department identified the following companies as owning utilities in the vicinity of the proposed project:

Southern California Edison	Southwest Gas
City of Needles	Mojave Pipeline
SC Gas Transmission	Citizens Communication
Frontier Communications	

2.1.3 Environmental Consequences

No-Build Alternative: Under the No-Build Alternative, there would be no adverse impacts on utility/emergency services. However, this alternative would not improve roadway safety and would not have the long-term beneficial effect on emergency services that the Build Alternative would.

Alternative 2: Realign to the East of Existing US-95

Relocation of utilities is not anticipated for the proposed project. However, some of the underground utilities may require protect in place measures during construction. Protect in place measures and any required relocations would be developed and coordinated with the respective utility owners during the design phase of the project.

During construction, Alternative 2 would result in minimum impacts to emergency services traffic, as the existing alignment would be open to traffic while the new alignment was being built. The project would be designed to minimize impacts from construction activities. A Traffic Management Plan (TMP) would be implemented which would include elements such as: construction staging, a Public Awareness Campaign to inform the public about construction activities, and the use of portable Changeable Message Signs.

The project would involve improvements to an existing roadway. Water would be used during construction to operate construction vehicles and equipment and control fugitive dust. However, since adequate water supplies exist to accommodate this temporary incremental increase in demand during construction, no substantial adverse water supply impacts would occur. Therefore, there would be no long-term adverse impacts on water supplies within the project area.

No septic tanks or sewage systems would be required for the proposed project. Consequently, the proposed project would have no adverse impacts on new, water or wastewater treatment facilities. Existing roadway and bed material would be disposed of at a facility licensed to handle such material during construction. Therefore, there would be no long-term adverse impacts on solid waste facilities.

2.1.4 Avoidance, Minimization, and/or Mitigation Measures

UTIL-1: Protect in place measures for existing utilities and any required relocations would be developed and coordinated with the respective utility owners during the design phase of the project.

TMP-1: A Traffic Management Plan (TMP) will be required to minimize traffic impacts due to construction activities. The California Highway Patrol (CHP) Construction Zone Enhanced Enforcement Program (COZEEP) is required. A detailed TMP, that addresses safety for both the motorists and the employees, would be developed during the preparation of Plans, Specifications, and Estimates (PS&E) package for this project.

TMP-2: An Access Management Plan would be prepared to avoid disruption or obstruction of emergency services and minimize impacts from construction activities.

2.1.5 Traffic and Transportation/Pedestrian and Bicycle Facilities

Regulatory Setting

The Department, as assigned by FHWA, directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of federal-aid highway projects (see 23 CFR 652). It further directs that the special needs of the elderly and the disabled must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

The Department is committed to carrying out the 1990 Americans with Disabilities Act (ADA) by building transportation facilities that provide equal access for all persons. The same degree of convenience, accessibility, and safety available to the general public would be provided to persons with disabilities.

2.1.6 Affected Environment

This section of US-95 is a two-lane, two-way undivided highway. Per District 8 Traffic Forecasting, volumes along US-95 are low, with the average daily traffic count being approximately 5,100 within the project limits. The purpose and need of the proposed project is not traffic congestion relief and there are no designated, existing, or proposed pedestrian or bike trails along this section of US-95.

2.1.7 Environmental Consequences

No-Build Alternative: Under the No-Build Alternative, no construction-related effects on traffic and transportation would occur. However, the No-Build Alternative would not improve safety along this section of US-95, as would occur under Build Alternative 2.

Alternative 2: Realign to the East of Existing US-95

A Traffic Management Plan would be developed to ensure that excessive traffic delays would be avoided during construction. No closures would be required during construction. Operationally, the proposed project would have a beneficial effect on traffic and transportation by improving safety. All improvements would be constructed in accordance with Department design standards.

2.1.8 Avoidance, Minimization, and/or Mitigation Measures

TMP-1: A Traffic Management Plan (TMP) will be required to minimize traffic impacts due to construction activities. The California Highway Patrol (CHP) Construction Zone Enhanced Enforcement Program (COZEEP) is required. A detailed TMP, that addresses safety for both the motorists and the employees, would be developed during the preparation of Plans, Specifications, and Estimates (PS&E) package for this project.

2.1.9 Visual/Aesthetics

Regulatory Setting

The National Environmental Policy Act of 1969 as amended (NEPA) establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and *aesthetically* (emphasis added) and culturally pleasing surroundings (42 USC 4331[b][2]). To further emphasize this point, the Federal Highway Administration (FHWA) in its implementation of NEPA (23 USC 109[h]) directs that final decisions regarding projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

Likewise, the California Environmental Quality Act (CEQA) establishes that it is the policy of the state to take all action necessary to provide the people of the state “with...enjoyment of *aesthetic*, natural, scenic and historic environmental qualities” (CA Public Resources Code Section 21001[b]).

In August 2011, the Department completed a Visual Impact Assessment for the proposed project. The project site is located on a short section of US-95 in San Bernardino County; it connects to the southern tip of Nevada with Southwestern Arizona. Much of US-95 is situated within an isolated part of the Mojave Desert. Compared to other Southern California cities, the two main destinations (Blythe and Needles) are fairly small communities. Travel without a high clearance vehicle during the rainy season (from January to March) could be difficult, as there are very few bridges over the streams. In the summer, the desert temperatures often reach 115 degrees Fahrenheit (45 degrees Celsius). The topographic boundaries within the site distance are the following mountain ranges: the Turtle Mountains to the south, together with the Whipple to the southeast, Chemehuevi to the east, and the Old Women and Stepladder to the west.

The Mojave Desert receives less than 10 inches of rain per year. It is believed that the desert supports between 1,750 and 2,000 species of plants. The mountains rise to an elevation of 1,400 feet and 3,200 feet respectively. The ground consists of alluvial fans and braided stream deposits. The alluvial fans and braided stream deposits are made of scattered patches of coarse sand, with a subsurface of silt clay and calcareous playa sediments. The vegetative land cover is a mix of typical desert scrub, including creosote bush, brittlebush, common saltbush, ocotillo, Mojave aster, sand verbena, Mojave sage, desert lavender, and beavertail cactus, to name a few.

There are no significant water features in the project vicinity with the exception of the Colorado River, with a visual distance of approximately 5.5 miles to the east of US-95. However, the Colorado River is of little visual interest; however, it does support some wildlife including native species of fish. The Colorado River has become a year-round recreation area for boaters, paddlers, water skiers, and fisherman.

2.1.10 Affected Environment

Project Viewshed

In order to evaluate a project's impact on the visual resources of an area, identification of view corridors and an evaluation of existing resources in these corridors have to be completed. Key views were identified through observation, and were selected from viewpoints considered most sensitive to views of the proposed project, as well as the most common public views.

This site has an undulating topography, with project views being visible from short and extended sight distances. On areas with existing dips, the viewer has a short sight distance and is able to see things in more detail. These areas are enclosed by the surrounding rises making views of the existing natural environment narrower. The extended sight distances are on the higher rises of the topography. On top of these rises, the visibility of the landscape is open to a further extent and the sight distance of the roadway is clearer.

Existing Visual Resources and Viewer Response

FHWA Method of Visual Resource Analysis

Identify Visual Character – Visual character is descriptive and non-evaluative, which means it is based on defined attributes that are neither, in themselves, good nor bad. A change in visual character cannot be described as having good or bad attributes, until it is compared with the viewer response to that change. If there is public preference for the established visual character of a regional landscape and resistance to a project that would contrast that character, then changes in the visual character can be evaluated.

Assess Visual Quality – Visual quality is evaluated by identifying the vividness, intactness and unity present in the viewshed. FHWA states that this method should correlate with public judgment of visual quality well enough to predict those judgments. This approach is particularly useful in highway planning because it does not presume that a highway project is necessarily an eyesore. This approach to evaluating visual quality can also help identify specific methods for mitigating each adverse impact that may occur as a result of a project.

The three criteria for evaluating visual quality can be defined as follows:

1. Vividness- The visual power or the memorable components of a landscape as they combine in distinctive visual patterns.

2. Intactness-The visual integrity of the natural and man-made landscape and its freedom from encroaching elements. It can be present in well-kept urban and rural landscapes, as well as in natural settings.
3. Unity-The visual coherence and compositional harmony of the landscape considered, as a whole. It frequently attests to the careful design of individual man-made components in the landscape. $\text{Visual Quality} = \text{Vividness} + \text{Intactness} + \text{Unity}$

Existing Visual Resources

Existing Visual Character

The transportation unit is characterized by a linear road alignment that dominates the foreground and middle ground, leading the eye to small ridgelines on the small rolling hills. US-95 has no shoulders, but has random short areas to turn out. The existing right of way is not clearly visible. Two views were taken on the project site: one from the southbound, and the other from the northbound on the periphery of US-95.

Existing Visual Quality

The visual quality of the existing landscape environment is moderately high. A moderate vividness rating was assessed due to the dominant desert landscape, the small hills and dips. The intactness of the site is moderately high, as there has not been much natural destruction. Unity is moderately high due to the dominance of its existing natural arid vegetation throughout the valley of the Mojave.

Methods of Predicting Viewer Response

Viewer response is composed of two elements: viewer sensitivity and viewer exposure. These elements combine to form a method of predicting how the public might react to visual changes brought about by a highway project.

-Viewer Sensitivity is defined both as the viewers concern for scenic quality and the viewers' response to change in the visual resources that make up the view. Local values and goals may confer visual significance on landscape components and areas that would otherwise appear unexceptional in a visual resource analysis. Even when the existing appearance of a project site is uninspiring, a community may still object to projects that fall short of its visual goals. Analysts can learn about these special resources and community aspirations for visual quality through citizen participation procedures, as well as from local publications and planning documents.

-Viewer Exposure is typically assessed by measuring the number of viewers exposed to the resource change, type of viewer activity, the duration of their view, the speed at which the viewer moves, and the position of the viewer. High viewer exposure heightens the importance of early consideration of design, art and architecture and their roles in managing the visual resource effects of a project.

Existing Viewer Sensitivity

The transportation users will have a low sensitivity to change because the proposed project features are expected to be in a rural area. The natural environment will remain very similar to the existing conditions; it would decrease sensitivity. The scenic quality will not have a significant change.

Existing Viewer Groups, Viewer Exposure, and Viewer Awareness

Views from the road will have a relatively low exposure to the project. The majority of highway travelers along this section of US-95 use the highway to move goods. Other groups that use this highway would be drivers using the route to get to campsites and local destinations. These groups typically have a short duration view at higher speeds, therefore lessening their awareness of any changes made to the project site.

Method of assessing project impacts

The visual impacts of project alternatives are determined by assessing the visual resource change due to the project and predicting viewer response to that change. Visual resource change is the sum of the change in visual character and change in visual quality. The first step in determining visual resource change is to assess the compatibility of the proposed project with the visual character of the existing landscape. The second step is to compare the visual quality of the existing resources with projected visual quality after the project is constructed.

The viewer response to project changes is the sum of viewer exposure and viewer sensitivity to the project as determined in the preceding section. The resulting level of visual impact is determined by combining the severity of resource change with the degree to which people are likely to oppose the change.

Definition of Visual Impact Levels

Low - Minor adverse change to the existing visual resource, with low viewer response to change in the visual environment. May or may not require mitigation.

Moderate - Moderate adverse change to the visual resource with moderate viewer response. Impact can be mitigated within five years using conventional practices.

Moderately High - Moderate adverse visual resource change with high viewer response or high adverse visual resource change with moderate viewer response. Extraordinary mitigation practices may be required. Landscape treatment required will generally take longer than five years to mitigate.

High - A high level of adverse change to the resource or a high level of viewer response to visual change such that architectural design and landscape treatment cannot mitigate the impacts. Viewer response level is high. An alternative project design may be required to avoid highly adverse impacts.

2.1.11 Environmental Consequences

No-Build Alternative: Under the No-Build Alternative, no construction-related effects on traffic and transportation would occur. However, the No-Build Alternative would not improve safety along the highway on this section of US-95 and would not meet the purpose and need of the proposed project.

Alternative 2: Realign to the East of Existing US-95

Analysis of key views

Because it is not feasible to analyze all the views in which the proposed project would be seen, it is necessary to select a number of key viewpoints that would most clearly display the visual effects of the project. Also, key views represent the primary viewer groups that would potentially be affected by the project.

To evaluate the visual impacts created by this project, specific locations have been identified to represent the visual resources. This would be assessed for visual quality before and after the project. Representative key view locations have been identified to represent the landscape unit.

View 1

Orientation

View 1 was taken from the shoulder of US-95 looking south toward the proposed vertical curve correction (see Figure 3).

Figure 3: View 1, looking south on US-95 towards the proposed project area



Description of Visual Quality/Character on existing US-95

Based on the Visual Quality Evaluation conducted at this view location, vividness was rated 4.6, intactness was rated at 4.0 and unity is rated at 5.0. Viewer sensitivity was rated at a level of 2.

The visual quality for vividness was evaluated as moderately high, since the landscape has a repeating rolling terrain that characterizes the area and gives it uniqueness. The current landscape has ridgelines and dips which are elements that characterize its existing landscape. Intactness was evaluated on the project site to be moderate, due to the desert landscape remaining untouched, with the exception of the roadway. Its unity was considered to be moderately high due to open interrupted views with continuous repeating visual elements on the foreground, mid-ground and background. Views on its foreground and mid-ground tend to have distinctive elements that flow mutually together, which are its color and texture. The viewer could differentiate form as being an element on its background by ridgelines that give its appearance to the entire mountain range; color remains consistent in the foreground and mid-ground views.

View 1 is a two-lane roadway with some scattered shoulders. This view is in the southbound direction. This portion of the existing highway would be demolished completely, and the impact of the change would be minimized with erosion control planting. The existing road has few areas where traffic could drive off the existing mainline, as well as do a turnaround. On this view, a noticeable dip is exposed in the mid-ground, which often carries water across the existing roadway. The dips throughout US-95 are the result of small streams crossing the existing roadway. The vacant land along the side supports desert scrub vegetation. Vegetation is scarce

throughout the dry ground and reveals rolling terrain throughout US-95. The area is rural with some wildlife and native vegetation.

Description of Visual Quality/Character for proposed Alternative 2

Based on the Visual Quality Evaluation conducted at this view location, vividness was rated 4.6, intactness was rated at 3.5, and unity is rated at 4.0. Viewer sensitivity was rated at a level of 2. View 1 will have a proposed two-lane roadway with shoulders to the sides. The visual quality for vividness would be moderately high due to its continuous undulating ground. The proposed road will create a straightforward sight vision. It will preserve visual elements mentioned above. Intactness was evaluated to be moderate, due to its untouched surrounding except for the proposed roadway. Equally scattered visual elements will remain in place. Unity was evaluated as moderate, due to the existence of similar elements in common, such as shape, texture, color, and arid region in the foreground and mid-ground views. Its existing background correlates with the foreground and mid-ground by sharing common visual elements and defining a boundary to its view. The proposed vertical correction would be to the left of this view, and will make motorists more visually aware of the roadway. The new vertical realignment will become more efficient for viewers to look forward, along with the addition of paved shoulders creating more space for any unanticipated condition. The new vertical realignment will require some fill to the left of this view. The proposed slopes would be graded evenly and erosion control would be applied as a mitigation measure.

View 2

Orientation

View 2 was taken from the shoulder of US 95 looking north toward the proposed vertical curve correction (See Figure 4).

Figure 4: View 2, looking north on US-95 towards the proposed project area



Description of Visual Quality/Character on existing US-95

Based on the Visual Quality Evaluation conducted at this view location vividness was rated 4.6, intactness was rated at 4.0, and unity is rated at 5.0. Viewer sensitivity was rated at a level of 1.

The visual quality for vividness was evaluated to be moderately high, since the existing surrounding has repeatable and similar visual elements. Intactness was evaluated on the project site to be moderate due to its rural area with the exception of the existing road. Its unity was considered to be moderately high due to unobstructed views.

View 2 demonstrates existing conditions on the two-lane highway. This view reveals the other portion of the highway that would be removed and improved. Erosion control would be applied on the existing road that would be removed. This sight has no visual clearance on the oncoming traffic. The ridge on the hill makes it hard to see the approaching traffic and the severity of the, unseen, existing curve. The rural area does not disclose any old or new development. The area has wildlife and native vegetation on its surrounding grounds. Improving the roadway will make current conditions on US-95 more visible.

Description of Visual Quality/Character for proposed Alternative 2

Based on the Visual Quality Evaluation conducted at this view location vividness was rated 4.6, intactness was rated at 3.5, and unity is rated at 4.0. Viewer sensitivity was rated at a level of 1.

On View, the proposed improvement would be on the right side of this view. It clearly determines where most of the cutting would be done. The proposed visual quality analysis was evaluated to be parallel to the proposed View 1, since View 2 was taken on the opposite side of View 1. The new proposed roadway would be approximately 25 feet to the east of existing US-95, for a distance of approximately 0.43 miles, reconnecting to existing US-95 traffic lanes in both southbound and northbound directions. The existing road through the project limits would be demolished; erosion control would be applied as a minimization and storm water measure. Any proposed slope would also require erosion control. The proposed project would change the existing curve to a more direct view of the onward roadway.

View 2 from the northbound roadway is a view of a rolling terrain of curves, dips, and a narrow roadway. Its scenery is enjoyable, since the viewer is able to see far distances on its rise areas. Small, scattered shrubs cover the land.

Conclusion

The project area is defined by the presence of slopes, small streams and rolling terrain. Users are campers and heavy trucks loaded with goods. Motorists traveling along US-95 are the only significant viewers on the site. The proposed roadway improvements include two 12-foot lanes, with 8-foot shoulders on the sides of the proposed lanes, which would involve cutting and filling. The area to be cut can easily be seen on View 2 to the right. The area to be filled can be seen on View 1 to the left.

Overall, the change in the existing visual quality after the proposed construction is evaluated as reduced for View 1 and View 2 (see Table 3).

Table 3: Change in Visual Quality, Before and After Proposed Project

Locations of Views	Existing Visual Quality Value	Visual Quality Value Proposed Modifications	Net Change in Visual Quality Value
View 1 South	4.5	4.0	-0.5
View 2 North	4.5	4.0	-0.5

Source: Visual Impact Assessment

2.1.12 Avoidance, Minimization, and/or Mitigation Measures

Re-vegetation of the disturbed area would minimize project impacts and would require the following process:

VQ-1: All paving would be removed from abandoned roadway then the area would be de-compacted by ripping.

VQ-2: All disturbed areas would be cat walked by grading equipment to provide a roughened surface.

VQ-3: All vegetation in areas to be cleared would be broken/crushed into mulch of less than 6 inch pieces. This mulch and the top two inches of soil (containing seed of the existing vegetation) would be scrapped and held for later use. When construction is complete it would be installed back evenly on the disturbed area.

VQ-4: All organic fiber from wood would be spray applied over the reserved mulch and topsoil. This fiber will include water soluble organic polymer.

VQ-5: A total of 971 plants would be planted on the disturbed area. The planting will consist of *Larrea tridentate*, *Acacia greggi*, and *Hymenoclea salsola*. The container size of the plants would be a 1 gallon. Plants would be spotted on site to reproduce a random native cover. A landscape contractor will provide temporary watering and replacement of any planted material that dies throughout the one-year plant establishment period.

2.2 Physical Environment

2.2.1 Water Quality and Storm water Runoff

Regulatory Setting

Federal Requirements: Clean Water Act

In 1972 Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. Known today as the Clean Water Act (CWA), Congress has amended it several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. Important CWA sections are:

- Sections 303 and 304 require states to promulgate water quality standards, criteria, and guidelines.
- Section 401 requires an applicant apply for a federal license or permit to conduct any activity, which may result in a discharge to waters of the U.S. to obtain certification from the State that the discharge will comply with other provisions of the act. (Most frequently required in tandem with a Section 404 permit request. See below.)

- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards (RWQCB) administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (MS4s).
- Section 404 establishes a permit program for the discharge of dredge, or fill material into waters of the United States. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

The objective of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”

USACE issues two types of 404 permits: Standard and General permits. There are two types of General permits, Regional permits and Nationwide permits. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to authorize a variety of minor project activities with no more than minimal effects.

There are two types of Standard permits: Individual permits and Letters of Permission. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of USACE’s Standard permits. For Standard permits, the USACE decision to approve is based on compliance with U.S. EPA’s Section 404 (b) (1) Guidelines (U.S. EPA CFR 40 Part 230), and whether permit approval is in the public interest. The Section 404(b) (1) Guidelines were developed by the U.S. EPA in conjunction with USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA), to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences. Per Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause “significant degradation” to waters of the U.S. In addition every permit from the USACE, even if not subject to the Section 404(b) (1) Guidelines, must meet general requirements. See 33 CFR 320.4. A discussion of the LEDPA determination, if any, for the document is included in the [Wetlands and Other Waters](#) section.

State Requirements: Porter-Cologne Water Quality Control Act

California’s Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This Act requires a “Report of Waste Discharge” for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the State. It predates the CWA and regulates discharges to waters of the State. Waters of the State include more than just Waters of the U.S., like groundwater and surface waters not considered Waters of the U.S. Additionally, it prohibits discharges of “waste” as defined and this definition is broader than the CWA definition of “pollutant”. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA,

and regulating discharges to ensure compliance with the water quality standards. Details regarding water quality standards in a project area are contained in the applicable RWQCB Basin Plan. States designate beneficial uses for all water body segments, and then set criteria necessary to protect these uses. Consequently, the water quality standards developed for particular water segments are based on the designated use and vary depending on such use. In addition, each state identifies waters failing to meet standards for specific pollutants, which are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source controls, the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB administers water rights, water pollution control, and water quality functions throughout the state. RWCQB's are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

- **National Pollution Discharge Elimination System (NPDES) Program**

Municipal Separate Storm Sewer Systems

Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water dischargers, including Municipal Separate Storm Sewer Systems (MS4s). The U.S. EPA defines an MS4 as any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that are designed or used for collecting or conveying storm water. The SWRCB has identified the Department as an owner/operator of an MS4 by the SWRCB. This permit covers all Department rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

The Department's MS4 Permit, under revision at the time of this update, contains three basic requirements:

1. The Department must comply with the requirements of the Construction General Permit (see below);
2. The Department must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and
3. The Department storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs) and other measures.

To comply with the permit, the Department developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within the Department for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices the Department uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of Best Management Practices (BMPs). The proposed Project would be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

Part of and appended to the SWMP is the Storm Water Data Report (SWDR) and its associated checklists. The SWDR documents the relevant storm water design decisions made regarding project compliance with the MS4 NPDES permit. The preliminary information in the SWDR prepared during the Project Initiation Document (PID) phase would be reviewed, updated, confirmed, and if required, revised in the SWDR prepared for the later phases of the project. The information contained in the SWDR may be used to make more informed decisions regarding the selection of BMPs and/or recommended avoidance, minimization, or mitigation measures to address water quality impacts.

Construction General Permit

Construction General Permit (Order No. 2009-009-DWQ), adopted on September 2, 2009, became effective on July 1, 2010. The permit regulates storm water discharges from construction sites which result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation results in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop storm water pollution prevention plans; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The 2009 Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective Storm Water Pollution Prevention Plan (SWPPP). In accordance with the Department's Standard Specifications, a Water Pollution Control Plan (WPCP) is necessary for projects with DSA less than one acre.

Section 401 of the federal Clean Water Act requires a water quality certification from the State Water Resources Control Board (SWRCB) or regional water quality control board (RWQCB) when a project 1) requires a federal license or permit (a Section 404 Permit is the most common federal permit for The Department projects) and 2) would result in a discharge to waters of the United States.

Section 402 of the federal Clean Water Act establishes the National Pollutant Discharge Elimination System (NPDES) for the discharge of any pollutant (except dredge or fill material) into waters of the United States. To ensure compliance with Section 402 of the Clean Water Act, the SWRCB has issued NPDES Statewide Storm water Permit to regulate storm water discharges from The Department facilities. The permit regulates storm water discharges from a The Department right-of-way, both during and after construction as well as from existing facilities and operations.

In addition, the SWRCB has issued a construction general permit for most construction activities covering more than 1 acre (0.40 hectare) that are part of a Common Plan of Development exceeding 5 acres (2.02 hectares) or that have the potential to significantly impair water quality. Some construction activities may require an individual construction permit. All The Department projects that are subject to the construction general permit require a Storm water Pollution Prevention Plan (SWPPP), while all other projects require a water pollution control program (WPCP). Subject to The Department review and approval, the contractor prepares both the SWPPP and the WPCP. The SWPPP and WPCP identify construction activities that may cause pollutants to be present in storm water and measures to control the pollutants.

Additional laws regulating water quality include the Porter-Cologne Water Quality Act, Safe Drinking Water Act, and Pollution Prevention Act. State water quality laws are codified in the California Water Code.

Section 401 Permitting

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water body must obtain a 401 Certification, which certifies that the project would be in compliance with State water quality standards. The most common federal permits triggering 401 Certification are CWA Section 404 permits issued by USACE. The 401 permit certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before USACE issues a 404 permit.

In some cases the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may issue a set of requirements known as Waste Discharge Requirements (WDRs) under the State Water Code that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

2.2.2 Affected Environment

The proposed project is located in the desert portion of southeastern San Bernardino County. The Colorado River Basin Regional Water Quality Control Board (RWQCB) has jurisdiction within the project limits. A Storm Water Data Report was completed in June 2011. The rainy season in this area is defined as October 1st to May 1st, with less than five inches of average annual rainfall in the area. The soil in the area mainly consists of dense silt sand. It has fair permeability with contents of silt. The depth of ground water in the area is approximately 400 to 550 feet deep. The beneficial uses of the receiving water bodies are minimal as the water seeps through the desert sand ground.

In August 2010, a jurisdictional delineation of waters of U.S. (WUS) and waters of the State of California (WSC) was conducted, the results of which are contained in the Natural Environmental Study (NES). Additionally, within the project area, twenty three ephemeral washes were identified, as part of a dryland fluvial system with a downstream connection to the

Colorado River. Per the NES, a total of 1.001 acres of WUS and WSC were delineated and the proposed project would impact 0.135 acre of ephemeral washes that would be considered jurisdictional WUS and WSC.

There are no municipal or domestic water supply reservoirs or ground water percolation facility that can be discharged directly from Department owned right of way run-off water. There were no TMDLs or effluent limits within the project limits and no special requirements, per the Colorado RWQCB. Lastly, there are no local agency requirements or concerns for the proposed project.

2.2.3 Environmental Consequences

No-Build Alternative: Under the No-Build Alternative there would be no construction improvements and therefore, water quality would not be affected.

Alternative 2: Realign to the East of Existing US-95

The total disturbed soil area of the project is estimated at 10.47 acres, with a net impervious area of 0.8 acres. Because the proposed Build Alternative would not disturb an area greater than 1 acre, the proposed project is not required to consider permanent treatment BMPs. Additionally, the project would not substantially change local hydrologic conditions or substantially increase storm water runoff and was designed to minimize disturbance and to preserve existing desert vegetation in the area.

The project proposes nearly the same paved area as the original condition and runoff water infiltrates into the desert sand quickly. The project will slightly increase the velocity and volume of flow within the project limits, but should have a negligible effect on downstream flow. Due to the lack of water resources in the immediate area, the proposed Build Alternative would not adversely affect water quality. However, for construction purposes, a Storm Water Pollution Prevention Plan (SWPPP) would be prepared for Alternative 2 and would comply with NPDES permit requirements. In compliance with state and federal clean water standards, the SWPPP would identify best management practices to control construction-related erosion and discharges and thereby, minimize potential water quality impacts.

2.2.4 Avoidance, Minimization, and/or Mitigation Measures

WQ-1: A Storm Water Pollution Prevention Plan (SWPPP) would be prepared for Alternative 2 and would comply with NPDES permit requirements. In compliance with state and federal clean water standards, the SWPPP would identify best management practices to control construction-related erosion and discharges and minimize water quality impacts.

BIO-1: All desert riparian vegetation within project limits would be protected in place with Environmental Sensitive Area (ESA) fencing.

BIO-2: Local topsoil removed for the project will be conserved and used in the areas affected by the proposed cut and fill. If approved by the agencies with jurisdiction, hydro seeding will be used with plants present in the area.

BIO-3: Measures would be implemented to avoid the introduction of invasive species as a result of this project.

BIO-4: The washes impacted by the proposed project will be mitigated in a minimum 1:1 ratio. This mitigation requirement is expected to be met in combination with the mitigation required due to the impacts to desert tortoise.

2.2.5 Paleontology

Regulatory Setting

Paleontology is the study of life in past geologic time based on fossil plants and animals. A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized or funded projects. (e.g., Antiquities Act of 1906 [16 USC 431-433], Federal-Aid Highway Act of 1960 [23 USC 305]), and the Omnibus Public Land Management Act of 2009 [16 USC 470aaa]). Under California law, paleontological resources are protected by the California Environmental Quality Act.

2.2.6 Affected Environment

In June 2011, the Department completed a Combined Paleontological Identification and Evaluation Report and Mitigation Plan (PIR/PER/PMP) for the project.

The purpose of the study was to identify paleontological resources, if any, within the proposed improvements Project Study Area (PSA) for the existing United States 95 (US-95), south of the City of Needles, San Bernardino County, California. The US-95 corridor to be affected extends for 0.43 miles between post mile marker (PM) 51.22 and 51.65. The PSA is mapped as Pleistocene non-marine deposits. Based on the field reconnaissance, the Pleistocene non-marine deposits consist of older alluvial fan covering clays of Quaternary lake deposits.

A search for paleontological records was completed at the San Bernardino County Museum, with the University of California's Museum of Paleontology online, and in published material. The PSA and a ten-mile radius were searched for resources. Two fossil localities have been previously reported from nearby the PSA in sediments similar to those found within the PSA. Extinct animals recovered from the two localities near the PSA include extinct elephant, camel, and horse. Sediments similar to those found within the PSA in San Bernardino and Riverside counties have also produced dire wolves, American lions, saber-toothed cats, ground sloth, bison, mammoth, mastodon, and plant remains.

On March 18, 2011, paleontological field reconnaissance was conducted. An initial windshield survey was followed by an intensive pedestrian inspection of open ground surfaces. The project location and some detailed features were photographed to document the condition of the proposed PSA. No fossils were observed during the survey.

2.2.7 Environmental Consequences

No-Build Alternative: Under the No-Build Alternative there would be no construction improvements and therefore, paleontological resources would not be affected.

Alternative 2: Realign to the East of Existing US-95

The project Area of Potential Effects includes the US-95 Vertical curve correction footprint. Paleontologically sensitive Quaternary lake deposits will be impacted during excavation in the area from north of PM 51.35 (station 2296+60) to north of PM 51.50 (station 2303+00).

Only the Quaternary Lake deposits are known to produce significant fossils. The surface Pleistocene non-marine deposits in the vicinity are extremely coarse sediments not conducive to the preservation of fossils. The remaining rock units are deeper than project impacts and unlikely to produce fossils.

Caltrans provided a cut depth exhibit for the project. Clays of Quaternary lake deposits will be impacted during excavation, related to construction activities. The area from north of PM 51.35 (station 2296+60) to north of PM 51.50 (station 2303+00) is the most likely portion to impact these deposits. For these reasons measures to avoid construction related impacts were developed for the project.

2.2.8 Avoidance, Minimization, and/or Mitigation Measures

PALEO-1: The PIR/PER/PMP prepared for this project must be implemented. The mitigation measures include, but are not limited to the following:

PALEO-1.a: All project personnel shall receive training prior to commencement of work. Attendance is mandatory for all earthmoving personnel and their supervisors. Procedures allowing the monitors to either directly or indirectly temporarily divert equipment to inspect fossil finds will be detailed in the Special or Technical Provisions prior to award of contract and worked out before hand at the preconstruction meeting with the Resident Engineer.

PALEO-1.b: The Contractor shall provide the Resident Engineer with a schedule of ground-disturbing activities to be conducted within the project limits in writing at least 15 working days prior to construction and update the schedules as needed. The Resident Engineer will make arrangements for the Paleontological Monitoring Team to be at the work sites in accordance with these requirements.

PALEO-1.c: A BLM fieldwork authorization is required prior to start of spot-checking and monitoring. The principal paleontologist will be responsible to obtain the authorization and ensure that all BLM permit and fieldwork authorization conditions are adhered to. Any fossil discoveries require notice to the local BLM field office.

PALEO-1.d: A qualified paleontologist will spot check the defined area of paleontological sensitivity north of PM 51.35 (station 2296+60) to north of PM 51.50 (station 2303+00) below five feet to assist in determining when the Quaternary Lake Deposits are reached. Qualified monitors will perform full-time monitoring of construction grading and excavation in the Quaternary Lake Deposits once they are reached. Personnel will be on call to respond to unanticipated discoveries in other portions of the project area.

PALEO-1.e: Discovery of fossils potentially meeting significance criteria requires immediate notice to BLM and Caltrans archaeologists of record for the project. These personnel will be party to all discussions regarding recovery, documentation, analysis, and curation.

PALEO-1.f: Upon conclusion of earthmoving, a Paleontological Mitigation Report (PMR) will be prepared. Copies of the PMR will be submitted to the repository, BLM Needles Field Office, Caltrans District 8, and other parties as requested by either agency.

2.2.9 Hazardous Waste/Materials

Regulatory Setting

Hazardous materials and hazardous wastes are regulated by many state and federal laws. These include not only specific statutes governing hazardous waste, but also a variety of laws regulating air and water quality, human health and land use.

The primary federal laws regulating hazardous wastes/materials are the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). The purpose of CERCLA, often referred to as Superfund, is to clean up contaminated sites so that public health and welfare are not compromised. RCRA provides for “cradle to grave” regulation of hazardous wastes. Other federal laws include:

- Community Environmental Response Facilitation Act (CERFA) of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

In addition to the acts listed above, Executive Order 12088, Federal Compliance with Pollution Control, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

Hazardous waste in California is regulated primarily under the authority of the federal Resource Conservation and Recovery Act of 1976, and the California Health and Safety Code. Other California laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning.

Worker health and safety and public safety are key issues when dealing with hazardous materials that may affect human health and the environment. Proper disposal of hazardous material is vital if it is disturbed during project construction.

2.2.10 Affected Environment

The project area is located in a remote rural area of southeastern San Bernardino County. There are no residential, commercial, or industrial developments in the area or evidence of such developments in past years. In April 2009, the Department completed an initial site assessment

checklist and determined that within the project area, there was a low risk of potential hazardous wastes, and that a Preliminary Site Investigation was not needed.

2.2.11 Environmental Consequences

No-Build Alternative: Under the No-Build Alternative, no construction activities would take place; therefore, no adverse effects on hazardous waste would occur.

Alternative 2: Realign to the East of Existing US-95

The land within the project area has never been developed; therefore, a formal, Phase-1 Initial Site Assessment will not be required. However, even though there is a low risk of potential hazardous wastes within the project area, construction activities necessitate the inclusion of provisions for non-hazardous Aerial Deposited Lead (ADL) soils and thermoplastic traffic stripe removal.

2.2.12 Avoidance, Minimization, and/or Mitigation Measures

HW-1: Include SSP for non-hazardous ADL soils in the Project Specifications and Estimates (PS&E) package.

HW-2: If the project will remove thermoplastic traffic stripe, include SSP 14-001 in the PS&E package. SSP 14-001 details how the project contractor would remove and dispose of yellow traffic stripe and pavement makings that would generate hazardous waste.

2.3 Biological Environment

The following biological studies have been prepared for the proposed project or for projects with biological assessment areas that overlap the project study area and are incorporated by reference in:

- An assessment of impacts to waters of the U.S. (WUS) and waters of the State of California (WSC) was completed in August 2010.
- Focused Survey for Desert Tortoise, prepared for the Department in August 2010.
- Natural Environmental Study (NES): Discussion of Biological Assessments, prepared for the Department in July 2011.
- Biological Assessment (BA), prepared in coordination with BLM and the Department in August 2010. On October 5, 2011, the U.S. Fish and Wildlife Service (USFWS) determined, during a field meeting with biologists from the Department and BLM, that the BA will be withdrawn and that a “not likely to adversely affect” (NLAA) determination was appropriate for the proposed project. All required measures have been incorporated into the environmental document and the NLAA determination will be obtained prior to final approval of the environmental document.

2.3.1 Natural Communities

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. The emphasis of the section should be on the ecological function of the natural communities within the area. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed in the Threatened and Endangered Species section 2.3.17. Wetlands and other waters are also discussed in section 2.3.5.

2.3.2 Affected Environment

The Biological Study Area (BSA) of the proposed project is within a zone of intergradation where the Sonoran and Mojave deserts meet. It includes portions of several dry washes and gently rolling hills adjacent to the roadway. The topography of the BSA varies from fairly level within the larger washes and on mesas to low rolling hills cut by smaller washes. Elevation ranges from approximately 840 feet in the northern portion of the BSA to 900 feet in the south. The soils are rocky sand.

The BSA around the existing roadway is dominated by creosote bush (*Larrea tridentata*), white bursage (*Ambrosia dumosa*), and sweetbush (*Bebbia juncea*). These are components of creosote bush scrub, the only vegetation community present. As would be expected in this ecotonal area, the plant species palette here includes elements of both Sonoran creosote bush scrub and Mojave creosote bush scrub (Holland 1986, University of California 2004). The road shoulders are largely barren, but where any vegetation occurs it is primarily a scattered sparse growth of native and non-native annual grasses and forbs. There are approximately 10.46 acres of creosote bush scrub within the BSA, and an additional 2.58 acres of developed areas (i.e., road, shoulder).

No natural communities of special concern are known or expected on site.

2.3.3 Environmental Consequences

No-Build Alternative: Under the No-Build Alternative, no adverse effects on natural communities would occur.

Alternative 2: Realign to the East of Existing US-95

There are no natural communities of special concern present within the proposed project site. Therefore, no adverse effects on natural communities would occur under Alternative 2.

2.3.4 Avoidance, Minimization, and/or Mitigation Measures

No natural communities of concern have been identified; therefore, avoidance, minimization, and/or mitigation measures are not required.

2.3.5 Wetlands and Other Waters

Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act [CWA(33 USC 1344)] is the primary law regulating wetlands and surface waters. The CWA regulates the discharge of dredged or fill material into waters of the United States (U.S.), including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army of Engineers (USACE) with oversight by the United States Environmental Protection Agency (U.S. EPA).

USACE issues two types of 404 permits: Standard and General permits. Nationwide permits, a type of General permit, are issued to authorize a variety of minor project activities with no more than minimal effects. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of USACE's Standard permits. For Standard permits, the USACE decision to approve is based on compliance with [U.S. EPA's Section 404\(b\) \(1\) Guidelines \(U.S. EPA 40 CFR Part 230\)](#), and whether permit approval is in the public interest. The Section 404 (b) (1) Guidelines were developed by the U.S. EPA in conjunction with USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (E.O. 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this executive order states that a federal agency, such as the Federal Highway Administration (FHWA) and/or Caltrans, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated primarily by the California Department of Fish and Game (CDFG), the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCB). In certain circumstances, the Coastal Commission or Bay Conservation and Development Commission or Tahoe Regional Planning Agency may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFG before beginning construction. If CDFG determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFG jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge

of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFG.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The RWQCB also issues water quality certifications for impacts to wetlands and waters in compliance with Section 401 of the CWA. Please see the [Water Quality section](#) for additional details.

2.3.6 Affected Environment

In August 2010, a jurisdictional delineation of waters of U.S. (WUS) and waters of the State of California (WSC) was conducted, the results of which are contained in the NES. A total of 1.001 acres of WUS and WSC were delineated within the project area. No wetlands, as defined by the ACOE or CDFG, occur within the project area. Twenty three ephemeral washes were identified and delineated in the project area. The proposed project would impact 0.135 acre of ephemeral washes that would be considered jurisdictional WUS and WSC.

The impacted area was calculated, based on preliminary design of the proposed project and is subject to change once final design is completed. During the final design phase, impacts will be verified with all involved resource agencies. Additionally, portions of waterways may be flagged for avoidance during field operations.

Deposition of fill material into WUS would require permits from the ACOE and RWQCB under Section 404 and 401, respectively, of the Clean Water Act. Nation Wide Permit 14 (NWP 14) for linear transportation projects would likely be available for use for this project in permitting with the ACOE.

Disturbance of WSC, including ephemeral streams, requires a Streambed Alteration Agreement with CDFG pursuant to Section 1602 of the California Fish and Game Code.

2.3.7 Environmental Consequences

No-Build Alternative: Under the No-Build Alternative, no effects on wetlands and other waters would occur.

Alternative 2: Realign to the East of Existing US-95

As discussed above, there are no wetlands present within the proposed project site. Therefore, no adverse effects on wetlands would occur under the Build Alternative 2. Nonetheless, coordination with USACE may be required to conduct the proposed project activities within jurisdictional waters of the United States that may be present within the proposed project site. A Section 401 permit, regulated by the RWQCB, may be required to conduct proposed project activities within dry washes known to occur at the proposed project site. Further coordination with RWQCB would determine the necessary permits. An additional Lake or Streambed Alteration Agreement pursuant to Section 1602 of the California Fish and Game Code may be necessary for impacts on dry washes present within the proposed project location. During construction, the provision of the proposed project would comply with all permit requirements identified as part of agency consultations and thereby minimize any potential for adverse effects on waters of the United States.

2.3.8 Avoidance, Minimization, and/or Mitigation Measures

BIO-1: All desert riparian vegetation within project limits would be protected in place with Environmental Sensitive Area (ESA) fencing.

BIO-2: Local topsoil removed for the project will be conserved and used in the areas affected by the proposed cut and fill. If approved by the agencies with jurisdiction, hydro seeding will be used with plants present in the area.

BIO-3: Measures would be implemented to avoid the introduction of invasive species as a result of this project.

BIO-4: The washes impacted by the proposed project will be mitigated in a minimum 1:1 ratio. This mitigation requirement is expected to be met in combination with the mitigation required due to the impacts to desert tortoise.

2.3.9 Plant Species

Regulatory Setting

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) have regulatory responsibility for the protection of special-status plant species. "Special-status" species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are afforded varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Please see the Threatened and Endangered Species Section 2.3.17 in this document for detailed information regarding these species.

This section of the document discusses all the other special-status plant species, including CDFG species of special concern, USFWS candidate species, and California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at United States Code 16 (USC), Section 1531, et seq. See also 50 CFR Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Department projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act (CEQA), Public Resources Code, Sections 2100-21177.

2.3.10 Affected Environment

The BSA around the existing roadway is dominated by creosote bush (*Larrea tridentata*), white bursage (*Ambrosia dumosa*), and sweetbush (*Bebbia juncea*). These are components of creosote bush scrub, the only vegetation community present (see Table 4). As would be expected in this ecotonal area, the plant species palette here includes elements of both Sonoran creosote bush scrub and Mojave creosote bush scrub (Holland 1986, University of California 2004). The road shoulders are largely barren, but where any vegetation occurs it is primarily a scattered sparse growth of native and non-native annual grasses and forbs. There are approximately 10.46 acres of creosote bush scrub within the BSA, and an additional 2.58

acres of developed areas (i.e., road, shoulder). Beavertail cactus (*Opuntia basilaris*), and silver cholla (*Opuntia echinocarpa*) are present within the project footprint.

No special status plant species are known or expected on site.

2.3.11 Environmental Consequences

No-Build Alternative: Under the No-Build Alternative, no effects on special status plant species would occur.

Alternative 2: Realign to the East of Existing US-95

As discussed above, there are no special status plant species within the study area and would thus not be affected by implementation of Alternative 2. The project would involve vegetation disturbance within the 6.64 acre project area.

Plant species, classified as non-sensitive, would be removed and temporary effects on plant species would occur during construction.

2.3.12 Avoidance, Minimization, and/or Mitigation Measures

Construction of Alternative 2 would require some clearing and grubbing activities, which would include the removal of some native, non-sensitive desert succulent species. In order to avoid and minimize project impacts:

BIO-5: Desert succulent species plants would be flagged by a biological monitor to be protected in place. Desert succulents that could not be protected in place would be relocated to appropriate locations within the Department's right of way.

2.3.13 Animal Species

Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The US Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) and the California Department of Fish and Game (CDFG) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the state or federal Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in Section 2.3.17 below. All other special-status animal species are discussed here, including CDFG fully protected species and species of special concern, and USFWS or NOAA Fisheries Service candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act
- Sections 1600 – 1603 of the Fish and Game Code
- Section 4150 and 4152 of the Fish and Game Code

2.3.14 Affected Environment

In the area around the project site, the California Natural Diversity Database (CNDDDB) reported records of the federally and state endangered razorback sucker (*Xyrauchen texanus*), the federally and state threatened desert tortoise (*Gopherus agassizii*), the federally endangered and state threatened Yuma clapper rail (*Rallus longirostris yumanensis*), the state endangered western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), the state endangered Gila woodpecker (*Melanerpes uropygialis*), and the state endangered Arizona Bell's vireo (*Vireo bellii arizonae*). Most of these species are associated with the Colorado River, approximately five miles to the north. At the actual project site, suitable habitat is present only for the desert tortoise.

No amphibians were detected within the BSA, and none are expected. Common reptiles of the area were encountered, including side-blotched lizard (*Uta stansburiana*), desert horned lizard (*Phrynosoma platyrhinos*), western whiptail (*Aspidoscelis tigris*), and desert iguana (*Dipsosaurus dorsalis*). A desert tortoise was detected approximately 2000 feet northeast of the BSA.

Eight species of birds were detected by AMEC biologists on the project. Birds on the project site were of species expected in this habitat, including turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), mourning dove (*Zenaidura macroura*), common raven (*Corvus corax*), and black-throated sparrow (*Amphispiza bilineata*).

Common mammals of the area were detected, including black-tailed jackrabbit (*Lepus californicus*), white-tailed antelope squirrel (*Ammospermophilus leucurus*), and kit fox (*Vulpes macrotis*). Several other mammal species would be expected to occur in the area, including desert cottontail (*Sylvilagus audubonii*), coyote (*Canis latrans*), and fossorial rodents such as kangaroo rats (*Dipodomys* spp.) and pocket mice (*Chaetodipus* and/or *Perognathus* spp.).

Regional Species and Habitats of Concern

The following species were listed in the California Natural Diversity Data Base (CNDDDB) for the Whale Mountain, Needles, Needles SW, and Monumental Pass USGS quadrangles:

Table 4: Regional Species and Habitats of Concern

Scientific Name	Common Name	Status	General Habitat Description	Occurrence Probability	Rationale
Fish					
<i>Catostomus latipinnis</i>	Flannel-mouth Sucker	None	Colorado River bordering California	Absent	No surface water on site; not on Colorado River
<i>Xyrauchen texanus</i>	Razor-back Sucker	FE, SE	Colorado River bordering California	Absent	No surface water on site; not on Colorado River
Reptiles					
<i>Gopherus agassizii</i>	Desert Tortoise	FT, ST	Most common in desert scrub,	High	No tortoises or sign found on Project site, but live

			desert wash, and joshua tree habitats; occurs in almost every desert habitat. Require friable soil for burrow construction.		tortoise and sign was found on belt transects around site
Birds					
<i>Falco mexicanus</i>	Prairie Falcon	None	Inhabits dry, open terrain, either level or hilly. Breeding sites located on cliffs. Forages far afield	Absent: nesting Low: foraging	No suitable nesting habitat on or near site, but could forage in the area
<i>Rallus longirostris yumanensis</i>	Yuma Clapper Rail	FE ST	Fresh-water marshes along the Colorado River and around the north, south and east ends of the Salton Sea	Absent	No suitable habitat on or near site
<i>Coccyzus americanus occidentalis</i>	Western Yellow-billed Cuckoo	SE	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems	Absent	No suitable habitat on or near site
<i>Athene cunicularia</i>	Burrowing Owl	CSC	Open, dry annual or perennial grassland, desert & scrubland characterized by low-growing vegetation.	Moderate	Suitable habitat is present in the Project area, species was recorded approximately five miles north of site in 2005. Not seen during tortoise survey.
<i>Melanerpes uropygialis</i>	Gila Woodpecker	SE	In California inhabits cottonwoods and other desert riparian trees, shade trees, and date palms	Absent	No suitable habitat on or near site
<i>Pyrocephalus rubinus</i>	Vermilion Flycatcher	CSC	During nesting, inhabits cottonwood, willow, mesquite, and other large desert riparian trees adjacent to irrigated fields, irrigation ditches, pastures, & other open, mesic habitats	Absent	No suitable habitat on or near site
<i>Myiarchus tyrannulus</i>	Brown-crested Flycatcher	None	Inhabits desert riparian along Colorado River, as well as other desert oases & riparian areas	Absent	No suitable habitat on or near site
<i>Vireo bellii arizonae</i>	Arizona	SE	Along Colorado	Absent	No suitable habitat on or

	Bell's Vireo		River chiefly inhabits willow thickets with undergrowth of <i>Baccharis glutinosa</i>		near site
<i>Toxostoma crissale</i>	Crissal Thrasher	CSC	Dense desert riparian and desert wash habitats	Absent	No suitable habitat on or near site
<i>Dendroica petechia sonorana</i>	Sonoran Yellow Warbler	CSC	Summer resident of Colorado River valley, in riparian deciduous habitat. below 600 ft elev.	Absent	No suitable habitat on site; site is above elevational range
<i>Icteria virens</i>	Yellow-breasted Chat	CSC	Inhabits riparian thickets of willow & other brushy tangles near watercourses	Absent	No suitable habitat on or near site
<i>Piranga rubra</i>	Summer Tanager	CSC	Cottonwood-willow riparian along lower Colorado River, & locally elsewhere in California deserts.	Absent	No suitable habitat on or near site
Mammals					
<i>Antrozous pallidus</i>	Pallid Bat	CSC	Deserts, grasslands, shrublands, woodlands & forests. most common in open, dry habitats with rocky areas for roosting.	Absent: roosting Low: foraging	Site lacks suitable roost sites, but species could forage in the area
<i>Ovis canadensis nelsoni</i>	Nelson's Bighorn Sheep	None	Open, rocky, steep areas with available water and herbaceous forage	Absent	No suitable habitat; sheep in this area are associated with the Sacramento Mountains to the west, the Chemehuevi Mountains to the south, and the pass between them.
Plants					
<i>Eriodictyon angustifolium</i>	Narrow-leaved Yerba Santa	CNPS 2.3	Pinyon-juniper woodland at 500-1900 meters elevation	Absent	No suitable habitat; site is below known elevational range
<p>Legend:</p> <p>FE: Federal Endangered Species FT: Federal Threatened Species ST: State (California) Threatened Species SE: State (California) Endangered Species CSC: State (California) Species of Special Concern CNPS: California Native Plant Society Sensitive Species</p> <p>CNPS Lists: List 1A - Plants Presumed Extinct in California; List 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere; List 2: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere; List 3: Plants About Which We Need More Information - A Review List; List 4: Plants of Limited Distribution - A Watch List.</p>					

CNPS Threat Ranks

- | | | |
|-----|---|--|
| 0.1 | - | Seriously threatened in California (high degree/immediacy of threat). |
| 0.2 | - | Fairly threatened in California (moderate degree/immediacy of threat). |
| 0.3 | - | Not very threatened in California (low degree/immediacy of threats or no current threats known). |

2.3.15 Environmental Consequences

No-Build Alternative: Under the No-Build Alternative, no effects on animal species would occur.

Alternative 2: Realign to the East of Existing US-95

There is a lack of suitable habitat within the proposed project area to support the following species: Yuma Clapper Rail (*Rallus longirostris yumanensis*), Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*), Gila Wood-pecker (*Melanerpes uropygialis*), Vermilion Flycatcher (*Pyrocephalus rubinus*), Brown-crested Flycatcher (*Myiarchus tyrannulus*), Arizona Bell's Vireo (*Vireo bellii arizonae*), Crissal Thrasher (*Toxostoma crissale*), Yellow-breasted Chat (*Icteria virens*), and Summer Tanager (*Piranga rubra*).

For the Sonoran Yellow Warbler (*Dendroica petechia sonorana*) the site elevation is above the range that is suitable as a habitat site.

For the Nelson's Bighorn Sheep (*Ovis canadensis nelson*) the project site is below the known elevation range for suitable habitat. Sheep in this area are associated with the Sacramento Mountains to the west, the Chemehuevi Mountains to the south, and the pass between them.

Based upon the Biological studies completed it was determined that, except for the Desert Tortoise, Prairie Falcon, the Burrowing Owl, and the Pallid Bat, other species discussed above were not present within the project area and are not considered further in this document.

2.3.16 Avoidance, Minimization, and/or Mitigation Measures

BIO-6: To avoid impacts to migratory birds, vegetation removal must take place outside of the breeding season, which occurs between approximately February 1 and September 1. If, due to construction schedules, it is necessary to remove vegetation, including trees, during this season, a biological construction monitor must perform a pre-construction survey of each individual tree and/or of the entire area where vegetation will be removed. All measures shall be taken to minimize impacts to nesting birds. A preconstruction sweep for nesting birds would be conducted prior to construction activities outside of the nesting season as well. The sweep includes areas used for staging, storage, sign placement, or parking areas.

2.3.17 Threatened and Endangered Species

Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 USC Section 1531, et seq. See also 50 CFR Part 402. This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA), are required to consult

with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) to ensure that they are not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 is a Biological Opinion or an Incidental Take statement. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code, Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project caused losses of listed species populations and their essential habitats. The California Department of Fish and Game (CDFG) is the agency responsible for implementing CESA. Section 2081 of the Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFG. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of the FESA, CDFG may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

2.3.18 Affected Environment

Special Status Animal Species Occurrences

Desert Tortoise

The Desert Tortoise is terrestrial, with a domed shell and round, stumpy elephantine hind legs. The front limbs are flattened for digging and heavily scaled without webbed toes. The carapace (upper shell) is oblong and domed with the sides round due to joining of the carapace and plastron (lower shell). The scute centers are often yellowish and have grooved concentric rings. The plastron is also yellowish, with brown along the scute margins. The head is small and rounded in front with reddish-tan coloring and the iris is greenish-yellow. The front and hind feet are about equal in size and the tail is short (USFWS 2010). On April 2, 1990, the Mohave population of the desert tortoise was listed as threatened (USFWS 1990). The desert tortoise is also listed as threatened by the State of California.

The Desert Tortoise is found in a variety of desert habitats, including arid, sandy or gravelly areas in creosote bush scrub. Desert tortoises feed on grasses and a variety of herbaceous annuals. They retreat into their horizontal burrow to avoid high and low temperatures. Desert tortoises mate in spring and can lay 2-3 clutches of eggs. Their populations have decreased

dramatically in recent years for a variety of reasons, including habitat loss and a serious respiratory disease.

For purposes of the ESA, desert tortoise habitat is defined as 1) areas with presence of desert tortoises or desert tortoise sign (e.g., shells, bones, scutes, scats, shelter sites, tracks, egg shell fragments, courtship rings, drinking sites, etc.) that are likely to be part or all of a lifetime home range, 2) dispersal areas (i.e., habitat corridors), or 3) areas suitable for desert tortoises as identified by the USFWS or in the most recent recovery plan for the Mojave population of the desert tortoise (USFWS 1994a).

The Project is in the Northern Colorado Recovery Unit for the desert tortoise (USFWS 1994a), but is not within critical habitat (the draft 2008 recovery plan places this area in the “Colorado Desert Recovery Unit” [USFWS 2008]). The nearest designated critical habitat (USFWS 1994) is in the Chemehuevi Unit, approximately 6.4 miles to the southwest. Critical habitat is defined as “the specific areas within the geographic area occupied by a species on which are found those physical or biological features essential to the conservation of the species and which may require special management considerations or protection” (USFWS 1994). The Project is also not within the Northern and Eastern Colorado Desert Coordinated Management Plan’s (BLM 2002) Chemehuevi Desert Wildlife Management Area (DWMA).

Survey Results

No desert tortoises or their sign were found within the BSA, but a single live desert tortoise and sign (including burrows and scat) were found during belt transects around the BSA perimeter, approximately 2100 feet from the proposed project limits. On November 17, 2008, a single tortoise was found by Caltrans biologists, outside of the BSA.

Prairie Falcon

This species inhabits dry, open terrain, either level or hilly. Breeding sites are located on cliffs, but it can forage far afield. The prairie falcon was recorded in the Needles SW quadrangle in 1977 (CNDDDB data).

Survey Results

The prairie falcon was not encountered during the field visit, but focused surveys for were not conducted for this species. Although it is possible that prairie falcons occasionally forage on this site, no nesting cliffs were present in, or near the BSA.

Burrowing Owl

Burrowing owls are found in a wide range of habitats that are characterized by low growing vegetation and the presence of burrows. These habitats include grasslands, scrublands, deserts, agricultural lands, golf courses, drainage ditches, earthen berms, and unpaved airfields. Burrowing owls normally use burrows made by other mammals, such as ground squirrels or badgers, but may also use man-made structures such as culverts, debris piles, or openings beneath cement or asphalt pavement (The California Burrowing Owl Consortium 1993). The nearest known records of the burrowing owl are from 2005, approximately five miles north of the BSA (CNDDDB data).

Survey Results

Focused surveys were not conducted for the burrowing owl, but suitable habitat occurs at and near the project site. Pre-construction surveys for burrowing owls will take place within 30 days prior to the on-set of proposed project construction activities.

Pallid Bat

This species inhabits deserts, grasslands, shrublands, woodlands & forests. The pallid bat is most common in open, dry habitats with rocky areas for roosting. The only known record of the species in the area is from 1939, approximately seven miles north of the BSA (CNDDDB data).

Survey Results

The pallid bat was not encountered during the field visit, but focused surveys for were not conducted for this species. Although it is possible that pallid bats occasionally forage on this site, there were no rocky areas, caves, or mines for roosting present in, or near the BSA.

2.3.19 Environmental Consequences

No-Build Alternative: Under the No-Build Alternative, no effects on animal species would occur.

Alternative 2: Realign to the East of Existing US-95

Through coordination with USFWS, it was determined that the proposed project may affect, but is not likely to adversely affect the Desert Tortoise. Activities that may affect the species include: construction and use of temporary access roads, detour roads, work off the paved roadway, and existing or new disposal sites; 2) potential harassment through handling and relocation of individual desert tortoise found within the work area prior to, or during construction activities; and 3) potential direct mortality resulting from Project construction activities. Although a NLAA determination was deemed appropriate, CDFG and BLM requested the implementation of mitigation for any loss of desert tortoise habitat within the proposed project footprint.

Project impacts to the Prairie Falcon and Pallid Bat would include direct, temporary loss of foraging habitat.

Project impacts to the Burrowing Owl include mortality during surface disturbance, as well as indirect impacts such as territory abandonment or nest failure due to human presence and noise.

2.3.20 Avoidance, Minimization, and/or Mitigation Measures

Although no desert tortoises, tortoise burrows, or other sign were found within the BSA, they are known to be in the vicinity. The Department will employ the following are measures, in order to avoid impacts to the desert tortoise:

BIO-7: Mitigation for impacts to desert tortoise habitat will be made at a ratio of a total of 3:1 (1:1 for BLM and 2:1 for CDFG).

BIO-8: Caltrans will conduct preconstruction sweeps, place temporary desert tortoise exclusion fencing, and retain an on-call biologist to monitor that no desert tortoise are within the fenced areas.

BIO- 9: If desert tortoise is found within the project limits all work will cease until the desert tortoise leaves the construction area by its own means.

BIO-10: At least 30 days prior to the initiation of construction activities within the proposed project site, USFWS shall require the project applicant to incorporate into the final plans and

specifications the requirement for all proposed construction staging areas, parking areas, and project elements to be surveyed for tortoise and clearly flagged, prior to the initiation of preconstruction surveys. Compliance shall be verified by the Resident Engineer.

BIO-11: At least 30 days prior to the initiation of construction activities, USFWS shall require the project applicant to incorporate into the final plans and specifications the requirement for a qualified biologist or designated monitor (working under the supervision of the qualified biologist) to develop and administer a worker education program to all construction personnel. Practices covered by this program shall include speed limits, firearm prohibition, encounters with desert tortoise, staying within construction limits, pet prohibition, agency notification, checking under vehicles, and trash and litter management. A construction monitoring notebook shall be maintained on site throughout the construction period. At a minimum, the construction monitoring notebook shall include a copy of the NLAA concurrence letter adopted by Caltrans. Construction crews, foremen, and other personnel potentially working on site shall undergo a desert tortoise education program to familiarize themselves with the particular biological restrictions and conditions of the area. All contractors and subcontractors on the construction project shall attend the course given by a qualified biologist. Information shall include training on special status species within the project area, species and habitat identification, techniques to avoid impacts to species, consequences of taking a listed species, and reporting procedures when encountering listed or sensitive species. Proof of compliance with this education program shall be submitted to Caltrans District 8.

BIO-12: USFWS shall require the project applicant to have all work areas and rights-of-way surveyed by a qualified biologist at least 5 calendar days before construction activities (i.e., grubbing, grading, trenching) begin to ensure that no desert tortoise is present within the project footprint. Preconstruction surveys shall be undertaken in two phases: (1) the alignment of the temporary exclusion fencing, and (2) the limits of the remaining areas to be graded within the proposed project site, including a 300-foot-wide buffer area beyond the limits of grading. No additional surveys for desert tortoise shall be required within the BSA. All desert tortoise burrows, as well as large mammal burrows that could be used by desert tortoise, shall be flagged. Inactive burrows shall be collapsed. Proof of compliance with this avoidance and minimization measure shall be submitted to Caltrans District 8.

BIO-13: USFWS shall require the project applicant to construct temporary desert tortoise fencing prior to initiation of ground-disturbing activity within the BSA. All construction staging shall be inspected and approved by a qualified wildlife biologist prior to the initiation of construction activities. Proof of compliance with this avoidance and minimization measure shall be submitted to Caltrans District 8.

BIO-14: USFWS shall require the project applicant to post limits of 20 miles per hour (mph), and strictly enforce speed limits within the project construction area. Compliance shall be verified by the resident engineer.

BIO-15: USFWS shall require the project applicant to restrict firearms and pets within the work area during construction. Compliance shall be verified by the Resident Engineer.

BIO-16: CDFG and USFWS shall require the project applicant to implement a trash-and-litter management program, thus reducing the appeal of the project area to ravens and other potential tortoise predators. Compliance shall be verified by the Resident Engineer.

BIO-17: Workers shall inspect for tortoises under vehicles prior to moving the vehicles. If a tortoise is present, all work shall cease until the desert tortoise abandon the project area by its own means. The monitor will be call to check that no take to the desert tortoise will occur.

BIO-18: If Burrowing Owl are found on site during the pre-construction, coordination with CDFG will be conducted to determine the appropriate avoidance and minimization measures required for the project. Implementation of one or more of the following measures may be required, in order to minimize affects on the species:

- As compensation for the direct loss of burrowing owl nesting and foraging habitat, Caltrans shall mitigate by acquiring and permanently protecting known burrowing owl nesting and foraging habitat at a ratio determined by the CDFG.
- Occupied burrows shall not be disturbed during the nesting season of February 1 and August 31, unless a biologist can verify through noninvasive methods that, either the owls have not began egg-laying and incubation or that juveniles from the occupied burrows are foraging independently and are capable of independent flight.
- Owls must be passively relocated from any occupied burrows that will be impacted by project activities, by a qualified biologist. Suitable habitat must be available adjacent or near the disturbance site or artificial burrows would need to be provided nearby. Once the biologist has confirmed that the owls have left the burrow, burrows would be excavated using hand tools and filled to prevent reoccupation.
- The permitted biologist shall monitor the relocated owls a minimum of three days per week for a minimum of three weeks.
- A report summarizing the results of the relocation and monitoring shall be submitted to CDFG within 30 days following completion of the relocation and monitoring of the owls.

BIO-19: To protect the Prairie Falcon, Pallid Bat, and Burrowing Owl, vegetation removal would be limited to the project footprint, and would be minimized to the maximum extent practicable.

2.3.21 Invasive Species

Regulatory Setting

On February 3, 1999, President Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States (U.S.). The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration guidance issued August 10, 1999 directs the use of the State's invasive species list currently maintained by the [California Invasive Species Council](#) to define the invasive species that must be considered as part of the NEPA analysis for a proposed project.

2.3.22 Affected Environment

Roadside vegetation often contains non-native, invasive species. Several non-native species are present within the roadsides of the proposed project area, including Sahara mustard (*Brassica tournefortii*), red-stemmed filaree (*Erodium cicutarium*), and Bermuda grass (*Cynodon dactylon*).

These species occur frequently along highways and roads (paved and unpaved) throughout the desert and are easily spread along roads and highways to undisturbed areas by vehicles, humans, water, animals, and wind.

2.3.23 Environmental Consequences

No-Build Alternative: Under the No-Build Alternative, no effects involving invasive species would occur.

Alternative 2: Realign to the East of Existing US-95

Annual grasses and forbs spread easily and quickly with soil disturbance and loss, as would be expected alongside US-95. Though the project would not substantially increase the area of road surface in the project vicinity, all reasonable and prudent measures should be utilized to prevent or minimize the spread of invasive species in the project area. In compliance with the Executive Order (EO) on invasive species, EO 13112, and subsequent guidance from FHWA, duffing or landscaping associated with the project would not use any species listed as noxious weeds. Measures to minimize the introduction or spread of non-native species may include cleaning all equipment and vehicles with water to remove dirt, seeds, vegetative material, or other debris before entering and upon leaving the project site and the removal and disposal offsite of existing non-native species within the project area. Landscaping and erosion control measures proposed during this Caltrans project will not contain invasive species in the plant selections or seed mixtures.

With appropriate measures, the proposed project is not expected to result in an increase or spread of invasive species in the project area. Thus, no adverse effects would result.

2.3.24 Avoidance, Minimization, and/or Mitigation Measures

BIO-3: Measures would be implemented to avoid the introduction of invasive species as a result of this project.

2.4 Cumulative Impacts

Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of this project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor, but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the

conversion to more intensive types of agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation; disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

California Environmental Quality Act (CEQA) Guidelines, Section 15130, describes when a cumulative impact analysis is warranted and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts, under CEQA, can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts, under the National Environmental Policy Act (NEPA), can be found in 40 CFR, Section 1508.7 of the Council on Environmental Quality (CEQ) Regulations.

2.4.1 Affected Environment

2.4.2 Environmental Consequences

No-Build Alternative: Under the No-Build Alternative, no effects regarding cumulative impacts would occur.

Alternative 2: Realign to the East of Existing US-95

Cumulative Utilities/Emergency Services Impacts – The proposed project would not increase impacts to utilities/emergency services as this is a safety project to realign an existing roadway. Existing utilities would be protected in place and a TMP would be required in order to minimize impacts to emergency services. The proposed project would not contribute to cumulative utilities/emergency services impacts.

Cumulative Traffic and Transportation/Pedestrian and Bicycle Facilities– The purpose and need of the proposed project is not traffic congestion relief and there are no designated, existing, or proposed pedestrian or bike trails along this section of US-95. A Traffic Management Plan would be developed to ensure that excessive traffic delays would be avoided during construction. No closures would be required during construction. Operationally, the proposed project would have a beneficial effect on traffic and transportation by improving safety on an existing facility. For the reasons listed above there are no potential cumulative traffic and transportation/pedestrian and bicycle facilities impacts.

Cumulative Visual/Aesthetics Impacts – The project area is defined by the presence of slopes, small streams and rolling terrain. Users are campers and heavy trucks loaded with goods. Motorists traveling along US-95 are the only significant viewers on the site. The proposed roadway improvements include two 12-foot lanes, with 8-foot shoulders on the sides of the proposed lanes, which would involve cutting and filling. The proposed project would implement avoidance, minimization and/or mitigation measures that would visually restore the proposed project area to its appearance of an open desert landscape, thereby resulting in no cumulative Visual/Aesthetics impacts.

Cumulative Water Quality and Storm Water Runoff Impacts – The proposed project would realign an existing portion of US-95 and would require preparation of a Storm Water Pollution

Prevention Plan (SWPPP). Compliance with a National Pollutant Discharge Elimination System (NPDES) permit requirements would insure that impacts would not occur to Water Quality and Storm Water Runoff. Additionally, in compliance with state and federal clean water standards, the SWPPP would identify best management practices to control construction-related erosion and discharges and minimize water quality impacts. For these reasons the proposed project would not result in cumulative water quality and storm water runoff impacts.

Cumulative Paleontology Impacts- The project Area of Potential Effects includes the US-95 Vertical curve correction footprint. Clays of Quaternary lake deposits will be impacted during excavation, related to construction activities. The area from north of PM 51.35 (station 2296+60) to north of PM 51.50 (station 2303+00) is the most likely portion to impact these deposits. Project measures were developed that avoid temporary and permanent construction related impacts to the Area of Potential Effect. Due to implementation of these measures, no cumulative impacts to paleontological resources will occur.

Cumulative Hazardous Waste/Materials Impacts- The land within the project area has never been developed; therefore, there is a low risk of potential hazardous wastes. Additionally, because there has been no prior development of the project area there are no cumulative hazardous waste/materials impacts.

Cumulative Wetlands and Other Waters Impacts- There are no wetlands present within the proposed project site; therefore, no adverse effects on wetlands would occur from the proposed project. However, during construction, provisions developed for the project would comply with all permits required and provisions were developed in coordination with resource agencies that avoid, minimize, and/or mitigate impacts to wetlands and other waters. For these reasons, there would be no cumulative impact to these resources from the proposed project.

Cumulative Plant Species Impacts- There are no special status plant species within the study area. The project would involve vegetation disturbance to an area of approximately 6.64 acres. In order to avoid and minimize impacts to some native, non-sensitive desert succulent species, provisions were included in the project that would restore the proposed project area to its appearance of an open desert landscape, thereby resulting in no cumulative Plant Species impacts.

Cumulative Biological Impacts – As discussed in Section 2.3.17, the Desert Tortoise is a federally and state-listed threatened species and signs of the presence of desert tortoise were observed within the zone of influence during surveys conducted in 2010. In addition, the desert tortoise habitat is vast, and includes large portions of San Bernardino County. According to the Adopted 2011 Federal Transportation Improvement Program (FTIP) and the Adopted 2008 Regional Transportation Improvement Program (RTIP) State Highway Projects, several Department projects have been proposed in San Bernardino County.

On US-95, within a five-mile radius, north and south of the proposed project the following projects were completed or are currently active:

	Name	Jurisdiction	Proposed Uses	Status
1.	EA 0P640	Caltrans	From Post Mile (PM) 57.20-80.5, near Needles from I-40 to the Nevada State Line complete preventative maintenance.	Project completed
2.	EA 0K580	Caltrans	From PM 42-45, from 0.3 miles south of Lobecks pass to 2.5 miles south of Needles Pipeline place 30 mm Rubber (Hot Mixed) Asphalt, Gap Grade.	Project completed

3.	EA 0M820	Caltrans	From PM 48.25/53.50 install center-line rumble strips.	September 2011, project approval/ environmental document completed.
4.	EA 0N100	Caltrans	From PM 37.3 to 47.6, from Havasu Lake Road to Needles Pipeline Road and from Goffs Road to .7 miles south of the Nevada Stateline, repair pavement.	Project completed
5.	EA 0P520	Caltrans	From PM 46.4 to 49.8, repair damaged embankment, shoulder, and pavement.	Project completed
6.	EA 25960	Caltrans	From 42.4 to 43.0, near Needles from 4.3 miles to 4.9 miles north of Lake Havasu Lake Road install median buffer, shoulder widening, and rumble strips.	Project completed
7.	EA 0P560	Caltrans	From PM 25.1 to 48.25, near Needles from 3.8 miles south of Turtle Mountain Road to 9 miles south of junction I-40/US-95, install center-line rumble strips.	June 2011, project approval/ environmental document completed.

The completed and/or active projects within a five-mile radius, north and south of the proposed project area have been maintenance projects. Given the avoidance, minimization and/or mitigation measures developed for Utilities/Emergency Services, Traffic and Transportation/Pedestrian and Bicycle Facilities, Visual/Aesthetics, Water Quality/Storm Water Runoff, Paleontology, Hazardous Waste/Materials, Wetlands and Other Waters, Plant Species and Biological resources, no substantial, adverse temporary or permanent effects from construction and/or implementation of the proposed safety project would result.

2.5 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gases (GHGs), particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization's in 1988, has led to increased efforts devoted to greenhouse gas (GHG) emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs related to human activity that include carbon dioxide (CO₂), methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2 –tetrafluoroethane), and HFC-152a (difluoroethane).

There are typically two terms used when discussing the impacts of climate change.

"Greenhouse Gas (GHG) Mitigation" is a term for reducing GHG emissions in order to reduce or "mitigate" the impacts of climate change. "Adaptation," refers to the effort of planning for and adapting to impacts due to climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels)¹.

Transportation sources (passenger cars, light duty trucks, other trucks, buses and motorcycles) in the state of California make up the largest source (second to electricity generation) of

¹ http://climatechange.transportation.org/ghg_mitigation/

greenhouse gas emitting sources. Conversely, the main source of GHG emissions in the United States (U.S.) is electricity generation followed by transportation. The dominant GHG emitted is CO₂, mostly from fossil fuel combustion.

There are four primary strategies for reducing GHG emissions from transportation sources: 1) improve system and operation efficiencies, 2) reduce growth of vehicle miles traveled (VMT) 3) transition to lower GHG fuels and 4) improve vehicle technologies. To be most effective all four should be pursued collectively. The following regulatory setting section outlines state and federal efforts to comprehensively reduce GHG emissions from transportation sources.

Regulatory Setting

State

With the passage of several pieces of legislation including State Senate and Assembly Bills and Executive Orders, California launched an innovative and pro-active approach to dealing with greenhouse gas emissions and climate change at the state level.

Assembly Bill 1493 (AB 1493), Pavley. Vehicular Emissions: Greenhouse Gases (AB 1493), 2002: requires the California Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck greenhouse gas emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year. In June 2009, the U.S. Environmental Protection Agency (U.S. EPA) Administrator granted a Clean Air Act waiver of preemption to California. This waiver allowed California to implement its own GHG emission standards for motor vehicles beginning with model year 2009. California agencies will be working with Federal agencies to conduct joint rulemaking to reduce GHG emissions for passenger cars model years 2017-2025.

Executive Order S-3-05: (signed on June 1, 2005, by Governor Arnold Schwarzenegger) the goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) 80 percent below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32.

AB32 (AB 32), the Global Warming Solutions Act of 2006: AB 32 sets the same overall GHG emissions reduction goals as outlined in Executive Order S-3-05, while further mandating that CARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the State's Climate Action Team.

Executive Order S-01-07: Governor Schwarzenegger set forth the low carbon fuel standard for California. Under this Executive Order, the carbon intensity of California's transportation fuels is to be reduced by at least ten percent by 2020.

Senate Bill 97 (Chapter 185, 2007): required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the State CEQA Guidelines for addressing greenhouse gas emissions. The Amendments became effective on March 18, 2010.

Federal

Although climate change and GHG reduction is a concern at the federal level; currently there are, no regulations or legislation that have been enacted specifically addressing GHG emissions reductions and climate change at the project level. Neither the United States Environmental Protection Agency (U.S. EPA) nor Federal Highway Administration (FHWA) has promulgated explicit guidance or methodology to conduct project-level greenhouse gas analysis. As stated on FHWA's climate change website (<http://www.fhwa.dot.gov/hep/climate/index.htm>), climate change considerations should be integrated throughout the transportation decision-making process—from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will facilitate decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project level decision-making. Climate change considerations can easily be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

The four strategies set forth by FHWA to lessen climate change impacts do correlate with efforts that the State has undertaken and is undertaking to deal with transportation and climate change; the strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and reduction in the growth of vehicle hours travelled.

Climate change and its associated effects are also being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the “National Clean Car Program” and Executive Order 13514- *Federal Leadership in Environmental, Energy and Economic Performance*.

Executive Order 13514 is focused on reducing greenhouse gases internally in federal agency missions, programs and operations, but also direct federal agencies to participate in the interagency Climate Change Adaptation Task Force, which is engaged in developing a U.S. strategy for adaptation to climate change.

On April 2, 2007, in *Massachusetts v. EPA*, 549 U.S. 497 (2007), the Supreme Court found that greenhouse gases are air pollutants covered by the Clean Air Act and that the U.S. EPA has the authority to regulate GHG. The Court held that the U.S. EPA Administrator must determine whether or not emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision.

On December 7, 2009, the U.S. EPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

- **Endangerment Finding:** The Administrator found that the current and projected concentrations of the six key well-mixed greenhouse gases--carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆)--in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The Administrator found that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

Although these findings did not themselves impose any requirements on industry or other entities, this action was a prerequisite to finalizing the U.S. EPA's *Proposed Greenhouse Gas Emission Standards for Light-Duty Vehicles*, which was published on September 15, 2009². On May 7, 2010 the final *Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards* was published in the Federal Register.

U.S. EPA and the National Highway Traffic Safety Administration (NHTSA) are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing first-ever GHG regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle GHG regulations. These steps were outlined by President Obama in a memorandum on May 21, 2010.³

The final combined U.S. EPA and NHTSA standards that make up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon (MPG) if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards will cut GHG emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

On January 24, 2011, the U.S. EPA along with the U.S. Department of Transportation and the State of California announced a single timeframe for proposing fuel economy and greenhouse gas standards for model years 2017-2025 cars and light-trucks. Proposing the new standards in the same timeframe (September 1, 2011) signals continued collaboration that could lead to an extension of the current National Clean Car Program.

Project Analysis

An individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the contributions of all other sources of GHG.⁴ In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable." See California Environmental Quality Act (CEQA) Guidelines sections 15064(h) (1) and 15130. To make this determination the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult if not impossible task.

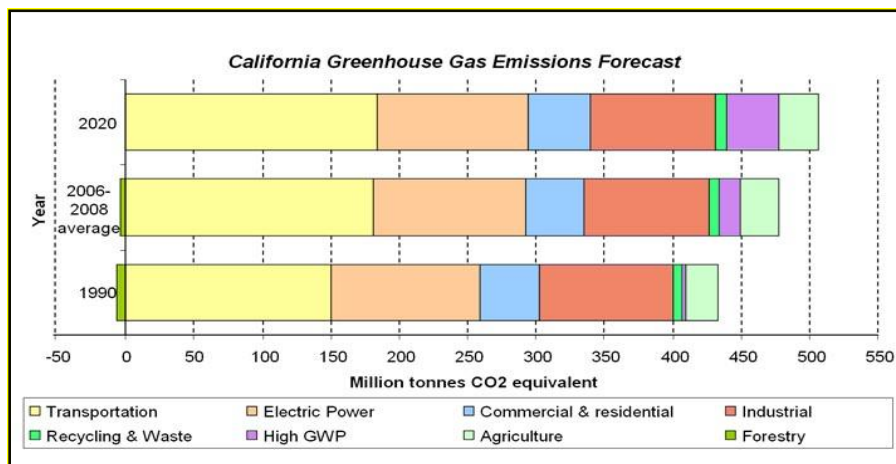
² <http://www.epa.gov/climatechange/endangerment.html>

³ <http://epa.gov/otaq/climate/regulations.htm>

⁴ This approach is supported by the AEP: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the SCAQMD (Chapter 6: : The CEQA Guide, April 2011) and the US Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

The AB 32 Scoping Plan contains the main strategies California will use to reduce GHG. As part of its supporting documentation for the Draft Scoping Plan, ARB released the GHG inventory for California (Forecast last updated: 28 October 2010). The forecast is an estimate of the emissions expected to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the GHG inventory for 2006, 2007, and 2008.

FIGURE 5 CALIFORNIA GREENHOUSE GAS FORECAST



Source: <http://www.arb.ca.gov/cc/inventory/data/forecast.htm>

Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation, the Department has created and is implementing the Climate Action Program at Caltrans that was published in December 2006 (see Climate Action Program at Caltrans (December 2006)).⁵

2.5.1 Affected Environment

No-Build Alternative: Under the No-Build Alternative, no effects regarding climate change impacts would occur.

Alternative 2: Realign to the East of Existing US-95

2.5.2 Qualitative Analysis

The purpose of the proposed project is to improve safety and operations within the project limits and will not increase capacity on the existing roadway. The realignment of this segment of US-95 would provide motorists more space to negotiate the curves and improve sight distances, which would reduce accident rates and improve operational efficiency, which would likely result in long-term GHG benefits because of operational improvements to this section of US-95.

⁵ Caltrans Climate Action Program is located at the following web address:

http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf

Construction Emissions

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

Although construction emissions are unavoidable, in order to address potential construction exhaust emissions the project would conform to Department construction requirements, as specified in Caltrans's Standard Specifications, Section 14 (Air Pollution Control). The Contractor shall comply with all air pollution control ordinances and statutes which apply to any work performed pursuant to the contract, including any air pollution control rules, regulations, ordinances and statutes, specified in Section 11017 of the Government Code." Implementation of said control measure would avoid and/or minimize any construction exhaust emissions and related impacts to air quality. Additionally, the project would conform to provisions which address Construction-activity, fugitive dust emissions.

The MDAQMD adopted Rule 403.2 (Fugitive Dust Control for the Mojave Desert Planning Area). The rule's purpose is to ensure that state and federal AAQS for PM10 will not be exceeded due to man-made sources of fugitive dust within the Mojave Desert Planning Area (MDPA) and implement the control measures contained in the MDPA Federal PM10 Attainment Plan. The proposed project would be required to implement control measures for each source of PM10 emissions, as specified in the rule. Implementation of said fugitive dust emission control measures would avoid and/or minimize any construction fugitive dust-related impacts to air quality.

2.5.3 CEQA Conclusion

While construction will result in a slight increase in GHG emissions during construction, it is anticipated that the project will not result in any increase in operational GHG emissions. It is Caltrans' determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and CEQA significance, it is too speculative to make a determination regarding significance of the project's direct impact and its contribution on the cumulative scale to climate change. However, Caltrans is firmly committed to implementing measures to help reduce the potential effects of the project. These measurements are outlined in the following sections.

Greenhouse Gas Reduction Strategies

AB 32 Compliance

The Department continues to be actively involved on the Governor's Climate Action Team as ARB works to implement the Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year. Former Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a \$222 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including \$100.7 billion in transportation funding during the next decade. The Strategic Growth Plan targets a significant decrease in traffic congestion below today's level and

a corresponding reduction in GHG emissions. The Strategic Growth Plan proposes to do this while accommodating growth in population and the economy. A suite of investment options has been created that combined together are expected to reduce congestion. The Strategic Growth Plan relies on a complete systems approach to attain CO₂ reduction goals: system monitoring



Figure 6: Mobility Pyramid

and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements as depicted in Figure 6: Mobility Pyramid.

The Department is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high density housing along transit corridors. The

Department is working closely with local jurisdictions on planning activities; however, the Department does not have local land use planning authority. The Department is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks; the Department is doing this by supporting on-going research efforts at universities, by supporting legislative efforts to increase fuel economy, and by its participation on the Climate Action Team. It is important to note, however, that the control of the fuel economy standards is held by U.S. EPA and ARB. Lastly, the use of alternative fuels is also being considered; the Department is participating in funding for alternative fuel research at the UC Davis.

Table 5 summarizes the Department and statewide efforts that the Department is implementing in order to reduce GHG emissions. More detailed information about each strategy is included in the Climate Action Program at Caltrans (December 2006).

Table 5 Climate Change/CO2 Reduction Strategies

Strategy	Program	Partnership		Method/Process	Estimated CO ₂ Savings (MMT)	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review (IGR)	Caltrans	Local Governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	.975	7.8
Operational Improvements & Intelligent Trans. System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	.07	2.17
Mainstream Energy & GHG into Plans and Projects	Office of Policy Analysis & Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational & Information Program	Office of Policy Analysis & Research	Interdepartmental, CalEPA, CARB, CEC		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening & Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement B20 B100	.0045	.0065 .045 .0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	.117	.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries		2.5 % limestone cement mix 25% fly ash cement mix > 50% fly ash/slag mix	1.2 .36	4.2 3.6
Goods Movement	Office of Goods Movement	Cal EPA, CARB, BT&H, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.72	18.18

To the extent that it is applicable or feasible for the project and through coordination with the project development team, the following measures will also be included in the project to reduce the GHG emissions and potential climate change impacts from the project:

1. The Department of Transportation (the Department) and the California Highway Patrol are working with regional agencies to implement Intelligent Transportation Systems (ITS) to help manage the efficiency of the existing highway system. "ITS" is commonly

referred to as electronics, communications, or information processing used singly or in combination to improve the efficiency or safety of a surface transportation system.

2. In addition, the Council of San Bernardino County Governments provides ridesharing services and park-and-ride facilities to help manage the growth in demand for highway capacity.
3. Landscaping reduces surface warming, and through photosynthesis, decreases CO₂. The project proposes planting in the intersection slopes, drainage channels, and seeding in areas adjacent to frontage roads and planting a variety of different-sized plant material and scattered skyline trees where appropriate but not to obstruct the view of the mountains. The Department has committed to planting a minimum of 40 trees. These trees will help offset any potential CO₂ emissions increase. Based on a formula from the Canadian Tree Foundation⁶, it is anticipated that the planted trees will offset between 7-10 tons of CO₂ per year.
4. The project would incorporate the use of energy efficient lighting, such as LED traffic signals. LED bulbs cost \$60 to \$70 apiece but last five to six years, compared to the one-year average lifespan of the incandescent bulbs previously used. The LED bulbs themselves consume 10 percent of the electricity of traditional lights, which will also help reduce the projects CO₂ emissions.⁷
5. According to the Department's Standard Specifications, the contractor must comply with all local Air Pollution Control District's rules, ordinances, and regulations in regards to air quality restrictions (Section 14-9.02: Air Pollution Control).

Adaptation Strategies

"Adaptation strategies" refer to how the Department and others can plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damaging roadbeds by longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

At the Federal level, the Climate Change Adaptation Task Force, co-chaired by the White House Council on Environmental Quality (CEQ), the Office of Science and Technology Policy (OSTP), and the National Oceanic and Atmospheric Administration (NOAA), released its interagency report October 14, 2010 outlining recommendations to President Obama for how Federal Agency policies and programs can better prepare the United States (U.S.) to respond to

⁶ Canadian Tree Foundation at http://www.tcf-fca.ca/publications/pdf/english_reduceco2.pdf. For rural areas the formula is: # of trees/360 x survival rate = tones of carbon/year removed for each of 80 years.

⁷ Knoxville Business Journal, "LED Lights Pay for Themselves," May 19, 2008 at <http://www.knoxnews.com/news/2008/may/19/led-traffic-lights-pay-themselves/>.

the impacts of climate change. The Progress Report of the Interagency Climate Change Adaptation Task Force recommends that the Federal Government implement actions to expand and strengthen the Nation's capacity to better understand, prepare for, and respond to climate change.

Climate change adaption must also involve the natural environment as well. Efforts are underway on a statewide-level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, Governor Schwarzenegger signed Executive Order S-13-08 which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change. This Executive Order set in motion several agencies and actions to address the concern of sea level rise.

The California Natural Resources Agency (Resources Agency) was directed to coordinate with local, regional, state and federal public and private entities to develop. *The California Climate Adaptation Strategy* (Dec 2009)⁸, which summarizes the best known science on climate change impacts to California, assesses California's vulnerability to the identified impacts, and then outlines solutions that can be implemented within and across state agencies to promote resiliency.

The strategy outline is in direct response to Executive Order S-13-08 that specifically asked the Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. Numerous other state agencies were involved in the creation of the Adaptation Strategy document, including Environmental Protection; Business, Transportation and Housing; Health and Human Services; and the Department of Agriculture. The document is broken down into strategies for different sectors that include: Public Health; Biodiversity and Habitat; Ocean and Coastal Resources; Water Management; Agriculture; Forestry; and Transportation and Energy Infrastructure. As data continues to be developed and collected, the state's adaptation strategy will be updated to reflect current findings.

Resources Agency was also directed to request the National Academy of Science to prepare a Sea Level Rise Assessment Report by December 2010⁹ to advise how California should plan for future sea level rise. The report is to include:

- relative sea level rise projections for California, Oregon and Washington taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge and land subsidence rates;
- the range of uncertainty in selected sea level rise projections;
- a synthesis of existing information on projected sea level rise impacts to state infrastructure (such as roads, public facilities and beaches), natural areas, and coastal and marine ecosystems;
- A discussion of future research needs regarding sea level rise.

⁸ <http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF>

⁹ The Sea Level Rise Assessment report is currently due to be completed in 2012 and will include information for Oregon and Washington State as well as California.

Prior to the release of the final Sea Level Rise Assessment Report, all state agencies that are planning to construct projects in areas vulnerable to future sea level rise were directed to consider a range of sea level rise scenarios for the years 2050 and 2100 in order to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. Sea level rise estimates should also be used in conjunction with information regarding local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data.

Until the final report from the National Academy of Sciences is released, interim guidance has been released by The Coastal Ocean Climate Action Team (CO-CAT) as well as the Department as a method to initiate action and discussion of potential risks to the states infrastructure due to projected sea level rise.

All projects that have filed a Notice of Preparation, and/or are programmed for construction funding from 2008 through 2013, or are routine maintenance projects as of the date of Executive Order S-13-08 may, but are not required to, consider these planning guidelines. An NOP was not filed or required for the proposed project. This project is included in the 2010 State Highway Operation and Protection Program (SHOPP) and is proposed for funding through the Major Reservation funds 201.010/HB1 –Safety Improvements program. It is also part of the SHOPP 2011 Federal Transportation Improvement Program (FTIP) Lump Sum SBDLS01 program.

Furthermore, Executive Order S-13-08 directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level affecting safety, maintenance and operational improvements of the system and economy of the state. The Department continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

Currently, the Department is working to assess which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change impacts, the Department has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide planning scenarios become available, the Department will be able review its current design standards to determine what changes, if any, may be warranted in order to protect the transportation system from sea level rise.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. The Department is an active participant in the efforts being conducted in response to Executive Order S-13-08 and is mobilizing to be able to respond to the National Academy of Science report on Sea Level Rise Assessment which is due to be released in 2012.

Chapter 3. Comments and Coordination

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation, the level of analysis required, and to identify potential impacts and mitigation measures and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including: project development team meetings, and interagency coordination meetings. This chapter summarizes the results of the Department's efforts to fully identify, address and resolve project-related issues through early and continuing coordination.

3.1 Consultation and Coordination with Public Agencies

Project Development Team

On February 22, 2007, a Project Initiation Proposal (PIP) # 3099 was approved to realign the vertical curve on US-95, from PM 51.22 to 51.46 to improve sight distance. Throughout the project process, Project Development Team (PDT) meetings have been conducted in order to evaluate and complete engineering and environmental studies required to meet the purpose and need of the proposed project.

Bureau of Land Management

On April 7, 2010, the PDT met with representatives from the Bureau of Land Management (BLM) to present the project Design features and discuss required, environmental studies. At this meeting it was agreed that the Department would submit draft technical studies to BLM for their review and comment. After this meeting, follow-up consultation and coordination took place between the Department and BLM technical specialists for issues related to Biological, Cultural, and Visual resources. To date, BLM has reviewed and approved the technical studies related to the project.

Biology

On May 19, 2010, representatives from the Department, the BLM and the California Department of Fish and Game (CDFG) visited the project site and approved a mitigation ratio of 1:1 for the BLM and 2:1 for CDFG.

The proposed project area is located within the jurisdiction of the United States Fish and Wildlife Service (USFWS) Ventura Office. In May 2010, Department Biologist, Juan Lopez-Torres discussed the project with Raymond Bransfield, Senior Biologist with the USFWS. Mr. Bransfield did not find the project to be of concern, and asked only that typical measures be implemented for projects in desert tortoise habitat.

On October 5, 2011, the U.S. Fish and Wildlife Service (USFWS) determined, during a field meeting with biologists from the Department and BLM, that the BA will be withdrawn and that a "not likely to adversely affect" (NLAA) determination was appropriate for the proposed project. All required measures have been incorporated into the environmental document and the NLAA determination will be obtained prior to final approval of the environmental document.

Cultural

Native American Tribes, Groups and Individuals

As part of the Section 106 survey effort, Caltrans District 8 Native American Coordinator, Gary

Jones, contacted local Native American organizations and individuals on behalf of FHWA to inquire of any concerns over the proposed project or any information pertaining to cultural resources in the immediate vicinity of the Project Area of Potential Effect (APE).

Native American Heritage Commission (NAHC)

On December 19, 2010, the Department requested a Sacred Lands File (SLF) search; received a reply December 29, 2010 that a search of the SLF did not identify any Native American cultural resources within a ½ mile radius of the Project APE. A list of 11 Native American individuals-organizations was provided by the NAHC for additional consultation in regards to Native American cultural resources or Project-related concerns. A table summarizing consultation efforts is provided below (see Table 6).

Table 6-Summary of Native American Heritage Commission Consultation

Organization	Name	Initial Contact (2011)	Additional Attempts (2011)	Response
AhaMaKav Cultural Society Fort Mojave Indian Tribe	Linda Otero Director	1/3	3/2	Ms. Otero is interested in consulting on the project and requested a copy of the cultural resources survey report.*
Chemehuevi Reservation	Joseph R. Benitez	1/3	1/20	Mr. Benitez stated that he had no concern over the proposed project.*
Chemehuevi Reservation	Charles Wood, Chairperson	1/3		Mr. Benitez responded on behalf of the Chemehuevi Reservation (see above)*
Colorado River Indian Reservation	Ginger Scott Cultural Contact	1/3	3/2; 3/16	No response
Fort Mojave Indian Tribe	Tim Wilson, Chairman	1/3	3/2; 3/16	See Ms. Otero's response above.
Las Vegas Paiute Tribe	Ramona Salazar, Cultural Resources Department	1/3	3/2	Ms. Salazar would like to be notified in the event Native American cultural resources are identified
Moapa Paiute Band Moapa Reservation	Cultural Resources Department	1/3	3/2; 3/16	Tribe has no concern over the proposed project, but request notification if human remains/Native American cultural items are discovered.
Morongo Band of Mission Indians	Michael Contreras Cultural Heritage Program	1/3	3/2; 3/16	No response
San Manuel Band of Mission Indians	John Ramos Chairman ATTN: Ann Brierty	1/3	3/2; 3/16	No response
Serrano Nation of Indians	Goldie Walker	1/3	3/2	Ms. Walker would like to be notified in the event Native American artifacts associated with Serrano culture are discovered.

Visual Resources

From April 2010 to August 2011, representatives from the Department's Visual Resources Unit consulted and coordinated with staff from the BLM in order to finalize a Visual Impact Assessment for the proposed project.

Chapter 4. List of Preparers

Department Staff

Environmental Document

Draft Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment with Finding of No Significant Impact prepared by Irene Dominguez, California Department of Transportation Associate Environmental Planner: Generalist- 7 years experience in environmental analysis; B.A. Sociology/Law and Society, University of CA Riverside.

Technical Studies

Visual Impact Assessment prepared by Alfredo Cornejo, California Department of Transportation Landscape Associate.

Initial Site Assessment Checklist prepared by Rosanna Roa, California Department of Transportation Engineer/Civil - Hazardous Waste Coordinator.

Contributors

Kurt Heidelberg, Senior Environmental Planner, Environmental Studies "D" Branch Chief

Juan Lopez-Torres, Associate Environmental Planner: Biology

Don Copeland, Senior Environmental Planner: Biology

Gary Jones, Associate Environmental Planner: Cultural Studies- Principal Investigator, Prehistoric Archaeology

Gabriel Duff, Senior Environmental Planner, Branch Chief Cultural Studies

Byron Strout, Senior Landscape Architect: Visual Resources

Tony Louka, Branch Chief, Environmental Engineering

Consultants

Natural Environment Study prepared by AMEC Earth and Environmental, Inc.

Focused Survey for Desert Tortoise prepared by AMEC Earth and Environmental, Inc.

Historic Property Survey Report prepared by Applied Earthworks, Inc.

Combined Paleontological Identification and Evaluation Report and Mitigation Plan prepared by Cogstone Resource Management, Inc.

Chapter 5. Distribution List

Veronica Chan United States Army Corps of Engineers Los Angeles District P.O. Box 532711 Los Angeles, CA 90053-2325	Raymond Bransfield Desert Division Ventura Office United States Fish & Wildlife Service 2493 Portola Road, Suite B Ventura, CA 93003
Office of Planning and Research (OPR) State Clearinghouse 1400 Tenth Street Sacramento, CA 95814 <i>For distribution to:</i> <ul style="list-style-type: none">• <i>California Department of Fish & Game</i>• <i>Colorado River Regional Water Quality Control Board</i>	California Transportation Commission Commission Chair 1120 N Street Room 2221 (MS-52) Sacramento, CA 95814
County Government Center San Bernardino County Supervisor-1st District Attn: Supervisor Brad Mitzelfelt 385 N. Arrowhead Avenue, 5th Floor San Bernardino, CA 92415-0110	City of Needles City Council 817 Third Street Needles, CA 92363
San Bernardino County Library Needles Branch 1111 Bailey Street Needles, CA 92363	Needles Chamber of Commerce P.O. Box 705 Needles, CA 92363
California Highway Patrol Commander of the Needles Office 1916 J Street Needles, CA 92363-2635	

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APPENDICES

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Appendix A: CEQA Checklist

CEQA Environmental Checklist

08-Sbd-US-95

51.22/51.65

0K310

Dist.-Co.-Rte.

P.M/P.M.

E.A.

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Supporting documentation of all CEQA checklist determinations is provided in Chapter 2 of this Initial Study/Environmental Assessment. Documentation of "No Impact" determinations is provided at the beginning of Chapter 2. Discussion of all impacts, avoidance, minimization, and/or compensation measures under the appropriate topic headings in Chapter 2.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

II. AGRICULTURE AND FOREST RESOURCES:

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

V. CULTURAL RESOURCES: Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

VI. GEOLOGY AND SOILS: Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

VII. GREENHOUSE GAS EMISSIONS: Would the project:

- a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document.

VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
- d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IX. HYDROLOGY AND WATER QUALITY: Would the project:

a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
j) Inundation by seiche, tsunami, or mudflow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

X. LAND USE AND PLANNING: Would the project:

a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XI. MINERAL RESOURCES: Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XII. NOISE: Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XIII. POPULATION AND HOUSING: Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XIV. PUBLIC SERVICES:

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XV. RECREATION:

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XVI. TRANSPORTATION/TRAFFIC: Would the project:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix B: Title VI Policy Statement

DEPARTMENT OF TRANSPORTATION

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*Flex your power!
Be energy efficient!*

July 20, 2010

**TITLE VI
POLICY STATEMENT**

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, or age, please visit the following web page:
http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact Charles Wahnon, Manager, Title VI and Americans with Disabilities Act Program, California Department of Transportation, 1823 14th Street, MS-79, Sacramento, CA 95811. Phone: (916) 324-1353 or toll free 1-866-810-6346 (voice), TTY 711, fax (916) 324-1869, or via email: charles_wahnon@dot.ca.gov.


CINDY MCKIM
Director

"Caltrans improves mobility across California"

Appendix C: Environmental Commitments Record